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PBO Contents

Welcome to the Summer 2015 issue

**SAVE
MONEY AND
SUBSCRIBE!**
Great offers on
page 47

REGULARS

- 5 Waiting for the tide**
The editor's welcome to this month's PBO
- 6 News**
Update on use of marked 'red' diesel in private pleasure craft... and more
- 10 Regional news**
South Coast wind farm gets green light, Lough Derg Marina up for sale... and more
- 12 Readers' letters - your views**
- 14 Dave Selby**
Practical boat moanship
- 16 Sam Llewellyn**
Item one: compiling lists prior to sailing
- 18 Andrew Simpson**
Bags of trouble
- 20 Ask the experts**
Change the cutless bearing in a P-bracket, plus more reader queries answered
- 75 PBO products and services**
Books and plans from the PBO Shop

GEAR

- 34 New vs old autopilots**
Is an upgrade worth the money?
- 51 New gear**
PBO looks at the latest marine products
- 78 10 jump starter packs** **TESTED**
Which is best at getting your engine started if your battery is flat?

PRACTICAL

- 30 Making new engine bearers**
Fitting them to the hull shape, then aligning and glassing them in place
- 40 Build a clip-on cockpit table**
PLUS more reader projects and tips
- 46 A swing-up engine bracket**
...For a 5hp outboard in a well



65 Using a circular saw

BOATS

- 24 Getting the Maxi**
Inspiring performance from the pen of Pelle Petterson
- 42 Cornish Shrimper 21** **TESTED**
How to follow one of the biggest success stories in UK boatbuilding

SEAMANSHIP

- 36 Short-handed sail handling**
Tips to hoist, drop and reef your sails without crew
- 66 Key responses**
Quick thinking and teamwork save a man overboard in Key West, Florida
- 94 Sticky situations**
Experienced mariner Sticky Stapylton shares some handy seamanship tips

CRUISING

- 58 French canal guide**
Part two of our exploration of an inland waterway cruise circuit in rural France
- 68 1,200 miles in an inflatable**
A demonstration of the convenience and versatility of Zodiac Cadet tenders
- 96 Interesting Ithaca!**
A reader loses himself in one of the windiest places in the Ionian

MARINAS

- 83 Marina visitors' price guide**
Visitor berth facilities and prices compared



Cover photo: Maxi 1100 by Sailing Scenes



24 Getting the Maxi



83 Marina visitors' price guide

- 48 Repairing a Volvo heat exchanger**
Mending a bodged repair at less than half the price of a new outer casing
- 65 Using a circular saw**
How to get best results and stay safe
- 72 DC-DC converters for dimming and charging**
Make a dimmer control and a trickle-charge regulator from cheaply-priced circuits
- 76 Made-to-measure DIY cockpit cushions**
You too can be comfortably better off by improving your cockpit seating
- 110 Poling out headsails**
Hints and tips from the PBO Sketchbook



30 Glassing in engine bearers



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Waiting for the tide



with the editor

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Casino Royale: stirred, not shaken

According to Ratty, in his famous quote in *The Wind in the Willows*, there's nothing in life half so much worth doing as simply messing about in boats. I wouldn't disagree, but sometimes the challenges set by sailing at sea lose you something of the dreamy, limpid tranquillity beloved of Kenneth Grahame's Water Rat.

I was reminded of this fundamental difference between river and canal boating and the coastal cruising undertaken by most PBO readers this weekend, when I attended Beale Park Boat Show. Set around a lake just off the River Thames in Berkshire, Beale Park is the embodiment of Ratty's dream. On shore, the sun glistened from mirror-smooth varnish perfectly applied to elegant skiffs and dayboats, while on the water, boats practical and impractical jostled for position. A sailing coracle bustled around without apparent purpose or direction, Dunkirk veterans in various states of restoration enjoyed a gentle retirement, and the crowds gathered on the banks to watch racing between home-built boats powered by cordless drills and rescues carried out by bear-like Newfoundland dogs. Nowhere in all of this was to be found the edge lent to a sailing situation by tides, lee shores and underwater rocks.

I experienced the calm lent by this lack of serious danger first-hand thanks to the kind invitation of Matthew, the owner of *Casino Royale*, a beautifully restored 8.8m (29ft) Chris Craft motor cruiser converted to electric propulsion by PBO contributor and owner of the Thames Electric Launch Company, Emrhys Barrell. It was a great demonstration of how well electric power can work in an inland situation as the 10kW motor rapidly accelerated and, equally importantly, stopped the heavy

wooden hull with minimum noise and fuss. At the stern, unencumbered by the huge petrol engine that would once have occupied most of the floor space, nothing could be heard but the ripple of the water.

Admittedly, *Casino Royale's* top speed is now a fraction of what it once would have been, but Matthew spends his time pottering up and down the Thames in the Henley area, all of which is limited to 5mph. A powerful petrol or diesel engine would hate that, but an electric system thrives while making being on board a delightfully relaxing experience.

Looking back through these last paragraphs you could be forgiven for thinking that I'm considering turning my back on sailing at sea, but I can assure you that's not just unlikely but impossible. I find the anticipation and management of potential dangers an exciting challenge, the wide-open spaces liberating and the freedom from shore an essential tonic. I've tried and enjoyed canal boating in the past, while sailing the Norfolk Broads will always occupy a special place in my heart after spending a few months working for and sailing on the Hunter Fleet in my twenties. But, for me, the sea and its limitless opportunities will always call me back.

Like Ratty, though, the key thing for most of us is to be afloat, whether you prefer briny or sweet(ish) water. This month's issue is a good example of the vast range of ways PBO readers choose to indulge their need to be afloat, from Richard Hare's guide to the French canal system to Peter Talbot's adventures in his Zodiac inflatable. Even working on a boat has a little frisson in that it promises freedom to come.

I wish you all a hugely enjoyable summer, simply messing around in boats. Fair winds,

David Pugh

Nothing could be heard but the ripple of the water

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News and current affairs from the world of boating



Update on the use of marked red diesel in private pleasure craft

Royal Yachting Association urges local marinas to lobby Belgian Government on tolerance for visiting British yachts

The Royal Yachting Association (RYA) has written to Belgian marinas and clubs with visitor moorings to encourage them to lobby the current Belgian Minister for Finance to reinstate permission for visiting British yachts to use red diesel.

In Belgium, the use of marked red diesel in a private pleasure craft is unlawful regardless of the country in which the diesel was purchased, and an infringement of Belgian law carries the risk of a fine. In January 2014, in response to falling numbers of visiting British yachts, the then Belgian Minister for Finance Koen Geens acknowledged that the Belgian Government 'must adopt a pragmatic approach' to the issue of red diesel.

Permission for British leisure craft to have red diesel in their fuel tanks when visiting Belgian waters was granted up until 31 October 2014, subject to the proviso that the skipper can 'present documents to demonstrate that excise duties have already been paid in the United Kingdom.' This permission was extended until 31 December 2014, but has not been renewed since.

Risk of fines

Although the risk of being fined by Belgian Customs remains low, the RYA says the uncertainty caused by the Belgian Government's decision not to extend this permission into 2015 is likely to prompt many British skippers who had intended to visit Belgium to go elsewhere.

The Maritieme Brigade Douane says part of the reason why the Belgian Government decided not to extend this permission was because local interest groups (including local boating organisations and marina/mooring operators) did not ask the Belgian Government to extend it. The RYA has therefore written to Belgian marinas and clubs with visitor moorings to point out that fewer visiting British yachts will inevitably result in a loss of income, and to encourage them to lobby for the current Minister for Finance to reinstate the express permission for visiting UK yachts to have marked 'red' diesel in their main fuel tanks.

Elsewhere in Europe

While EU member states now supply only white diesel to recreational craft, marked red diesel is usually the only diesel available to private pleasure craft at the waterside in the UK – so the vast majority of UK-based yachts have marked red

diesel in their main fuel tanks. The presence of red diesel in a yacht's main fuel tank does not cause any difficulty for British skippers visiting any European country apart from Belgium, although you should carry evidence that your diesel was purchased duty-paid in the UK when visiting France and the Netherlands.

UK boaters have been required to pay the full rate of duty on fuel used for propelling private pleasure craft since November 2008. Under EU law, the only boaters entitled to a rebated rate of duty on diesel are those who use it for heating and electricity generation. But even when only 60% of marked red diesel purchased is declared as being used for propulsion (the 60:40 split), UK boaters still pay roughly 10% more duty than their counterparts in France and Belgium.

Why should private pleasure craft use marked red diesel in the UK?

In short, to secure the continued availability of diesel fuel at the waterside for all UK boaters. Should waterside fuel suppliers be obliged to supply unmarked white diesel to private pleasure craft they will be faced with the cost of installing a

Will Belgium reinstate permission for visiting UK leisure craft to use red diesel?



second fuel tank and pumping equipment or choosing which fuel to supply – marked red or unmarked white diesel. RYA research indicates that roughly one-third would limit their operation to supplying marked red diesel to commercial vessels and stop supplying private pleasure craft altogether, particularly where harbours cater predominantly for fishing craft. The research also suggests that if this were to happen inland, the owners of inland waterways vessels would end up being denied access to diesel at the rebated rate of duty diesel for domestic use.

Ongoing uncertainty

The European Commission believes that the use of marked red diesel for propulsion makes it difficult for tax authorities to tackle improper use, so private pleasure craft should only use unmarked white diesel for propulsion.

Following the press release issued by the Commission in July 2014, the UK Government is still awaiting official notification from the Commission that it intends to take the UK to the European Court of Justice for 'not properly applying the rules on fiscal marking of diesel fuel'.

In the meantime, there is no indication that the UK Government intends to modify its long-standing supportive stance, and the RYA will continue to lobby for the continued supply of marked red diesel in the UK.

Teen recovering well after speedboat crash

A teenager who suffered serious injuries when a speedboat crashed into a cardinal marker and capsized in Southampton Water is said to be making 'positive progress'.

Crew member Simon Dredge was on board the £1million VR40 prototype powerboat, on a scheduled test run with his father Peter Dredge and two other experienced powerboaters when the dramatic crash happened just outside the Hamble River, close to the Warsash Maritime Academy. UK Coastguard received multiple 999 calls from members of the public on 13 May, reporting the incident. The Search and Rescue helicopter from Lee-on-Solent and Calshot RNLI lifeboats attended.

In addition to former RYA powerboat racing manager Peter Dredge and his 17-year-old son Simon, experienced powerboat racer Simon Wood-Power and engineer Lee Hurst were on board the VR40 prototype, which was being tested for one of Vector World's clients. All four men were taken to Southampton General Hospital, and two required medical care. A spokesperson for Vector World said: 'We are pleased to report that crew member Simon Dredge continues to make positive progress and is expected to make a full recovery.'



The speedboat crash on Southampton Water. INSET Peter Dredge

'Simon was very much part of the crew despite his young age. This was by no means his first outing.'

Peter Dredge, aged 52, was hailed by the rescue services as hero of the hour. However, he has not yet offered any comments regarding this, as his main concern is the recovery and wellbeing of his son. Calshot RNLI helmsman Mark Weatherhead said: 'We arrived within minutes to find a nearby workboat had managed to pull all four occupants of the speedboat from the water. Our RNLI crew members, which included a paramedic, immediately went aboard and began treating the four injured people. Three had suffered head injuries, with one serious. A rescue helicopter winched down a paramedic to our RNLI lifeboat to help treat the injured.'

All four casualties were taken

ashore to Warsash where they were met by waiting paramedics. They were taken to hospital by ambulance.

RYA powerboat racing manager Jeni Jelf said: 'Peter Dredge and Simon Wood-Power are both highly regarded within the powerboat racing community, and both are extremely knowledgeable and experienced in this type of craft. Although the incident was not in conjunction with any RYA activity or event, the persons involved have a long-standing connection to the association.'

'On behalf of the Powerboat Racing Department, along with its associated competitors, clubs and committee members, we would like to convey our thoughts and best wishes to those involved, especially those still receiving medical care and their families.'

Official report into fatal yacht and dredger crash

An official report has been published almost a year after the fatal collision between a cruiser and a dredger off the coast of Felixstowe.

On 8 June 2014, the dredger *Shoreway* and the sailing yacht *Orca* collided seven miles offshore, causing *Orca* to sink rapidly. The yacht's skipper was rescued by *Shoreway*'s rescue boat but the skipper's wife, Bernadine Ingram, could not be found. Her body was recovered from the yacht by divers the following day.

A Marine Accident Investigation Branch (MAIB) investigation has established that the vessels collided in good visibility as neither the chief officer, alone on the bridge of *Shoreway*, nor the skipper of *Orca*, who was below deck in the cabin,

were maintaining a proper lookout.

The report said: '*Orca* had generated a clear target that had been visible on *Shoreway*'s radar display for 11 minutes prior to the collision. *Shoreway*'s chief officer had not recognised the need to look at the radar or make use of its ARPA function, so *Orca*'s target had not been seen, acquired or plotted.'

Orca's skipper saw *Shoreway* approximately 1.6NM away but judged there to be no risk of collision, and decided to engage his autopilot and briefly go below. The report concludes: 'Boskalis should adopt a more proactive approach to developing a more positive safety culture in respect of bridge watchkeeping practices on board its vessels.' Read the full report online at: www.maib.gov.uk



Orca is recovered
INSET The aftermath
of the fatal crash

If you navigate with an iPad, read on

Despite the confusion on online forums and among many sailors, iPads with a 3G chip have their own GPS – but their cheaper cousins, the Wi-Fi-only range of iPads, don't.

It has always been possible to convert the cheaper Wi-Fi-only iPad, using a Bad Elf or similar plug-in third-party GPS. But the latest update to Apple's operating system, iOS 8.3, has caused many third-party positioning devices to stop working with the iPad.

So, if you're heading out on the water and plan to use a Wi-Fi-only iPad as a chart plotter using a third-party GPS, it's probably best to delay upgrading to iOS 8.3 until you're safely back ashore: or, if you've already upgraded, to check the compatibility of your third-party GPS with your iPad navigation app before you need it. Bad Elf, who sell a range of third-party devices, have a constantly-updated blog detailing the latest in their efforts to get it all working again at <http://bad-elf.com/blogs/bad-elf>

iPads with their own GPS chip are unaffected. Devices that transmit position and NMEA data over Wi-Fi are also unaffected.



ISAF to campaign for disabled sailing's inclusion in Tokyo 2020 Paralympic Games

The International Sailing Federation (ISAF) is to campaign for disabled sailing's inclusion in the Tokyo 2020 Paralympic Games and has appointed VERO Communications to advise and support its campaign.

The decision to press the International Paralympic Committee (IPC) to add sailing to the Tokyo 2020 Paralympic Games follows ISAF formally taking over the management of disabled sailing in November 2014, and the integration of the International Association for Disabled Sailing (IFDS) into ISAF.

ISAF president Carlo Croce said: 'This is a new era for disabled sailing, with ISAF now able to fully utilise its technical, financial, promotional and strategic resources to bring significant benefits to disabled sailing. For example, we are now working hard to put in place a much enhanced, professional and aligned four-year competition programme for disabled sailing, as well as generating greater



The British Sonar Sailing Team in action

Paul Wyeth

media, broadcast and promotional opportunities for the sport following integration into ISAF's wider communications planning and activities.

'I'm delighted that we have the proven expertise of VERO Communications to support us in this cause. Our focus now is to build the case for disabled

sailing's inclusion in Tokyo 2020, much of which will be centred around new evidence, as well as stressing some of the unique attributes of disabled sailing – including the fact that it is the only sport where athletes with the highest level of disability can compete equally against athletes with other disabilities.'

Miss Isle sailor Natasha Lambert completes Capital Venture voyage

Inspirational disabled teenager **Natasha Lambert** has completed her latest challenge: sailing from the Isle of Wight to London and then completing a lap of the Square Mile.

The 17-year-old athertoid

cerebral palsy sufferer, who is on a fundraising drive to start a new sip-puff school for disabled sailors, reached central London's only marina, St Katharine Docks, on 1 June after eight days' sailing. She then swapped her specialist

Artemis 20 Mini Transat boat *Miss Isle* for her Hart Walker to complete a journey on foot around the city's financial district, visiting Trinity House and the Bank of England.

Miss Isle's sip and puff technology, designed by Natasha's father, enables her to sail using a straw that turns the rudder right when sipped and left when puffed. At the time of going to press, Natasha had more than doubled her target, raising £2,460 for the new charity being set up to teach disabled people to sail at the 'Miss Isle School of Sip-Puff Sailing'.

Capital Venture is the latest in a long list of achievements for Natasha. In 2014, she undertook the 'Sea and Summit' challenge which saw her sailing more than 500 miles from Cowes to South Wales and climbing Pen y Fan in the Brecon Beacons.

See www.missisle.com



Miss Isle completes the Capital Venture

You can't see, smell, taste or touch it – but it kills

Carbon monoxide (CO) kills – on average – one person a week in England and Wales: and about 200 people a year need to be taken to hospital after suffering its effects.

The Maritime and Coastguard Agency has issued a safety warning to boaters about CO, which gets into the bloodstream through the lungs, blocking the oxygen your body needs. Prolonged exposure or very quick exposure to high concentrations can kill you.

Symptoms of CO poisoning include irritated eyes, headache, nausea, weakness and dizziness. These are often confused with seasickness or too much drink, so people who experience it often don't receive medical attention. Causes of CO build-up in your boat include inadequate ventilation, exhaust gas from engines – yours or someone else's – and heater outlets.

Marine surveyor Tony Skeats of the Belfast Marine Office advises: 'Keep your boat well ventilated and well maintained – not only the engine, but also water pumps and cooling systems on "wet exhausts". Have your gas systems serviced by a "Gas Safe Engineer". Remember, if you can smell exhaust fumes you are being exposed to CO.

'Watch out for the symptoms. If you experience any, get out on deck and get medical attention unless you are absolutely certain it's not CO poisoning. The best advice is to buy a carbon monoxide alarm – preferably a marine one as they last longer – but make sure it conforms to the BS and EU standards, BS EN 50291-2.'

For more information on CO, the fitting and maintenance of gas installations and a list of standards visit www.boatsafetyscheme.org



Push The Boat Out 2015

RYA

Push the Boat Out

Thousands of people of all ages and abilities took to water over nine days to experience sailing and windsurfing with RYA Push the Boat Out 2015.

The national event took place from 9-17 May and saw more than 340 sailing clubs and training centres opening their doors to welcome people with 'have a go' taster sessions and open days. RYA club support advisor Jackie Bennetts said: 'We're now hoping that those who enjoyed their time on the water will be making plans to continue to go sailing.'

One of the clubs to take part was Hill Head Sailing Club in Hampshire. Vice Commodore Tomos Price said: 'It has been a great opportunity to open our doors and get people to enjoy the sport we're all mad about. Every person that volunteers at the club gets a kick out of getting others on the water, and everyone is happy that it went so well.'

Strong winds failed to stop more than 200 people taking to the water at Port Edgar Watersports, where special guests included Olympic silver medallist Luke Patience and his sailing partner Elliot Willis as well as GB Sailing Team member Eilidh MacIntyre. Naim Sailing Club were also challenged with some windy conditions but, with a great team effort from their members and a good back-up plan, they were able to get people out in boats and having a great time.

Club spokesman Buchan Main said: 'We took out 30 people from

young kids to senior citizens, signed up two family memberships, one old member rejoined and three forms were taken away to be filled in. It was a lot of hard work, but it was worth every moment: even the local dolphins put in an appearance to entertain the sailors'.

DIARY DATES

■ **Hartlepool Marina June Boat & Auto Jumble**, 21 June, from 10am, the Morris Minor club will also be in attendance. All welcome.

■ **Golowan Maritime Festival**, 26-28 June, www.golowanmaritimefestival.co.uk

■ **Round the Island Race 2015**, 27 June, Isle of Wight, www.roundtheisland.org.uk

■ **Fisher Owners Association (FOA) 45th anniversary rally to Middelberg in the Netherlands**, 29 June-3 July, www.fisherowners.org

■ **Inaugural Swallow Boats Raid**, June 29 to 3 July, Mylor, Falmouth, <http://swallowboats.com/programme-for-swallow-boats-raid-2015-at-mylor-falmouth>

■ **Titchfield Boat Jumble**, 5 July, Hound Hill Farm, Titchfield, Hampshire. PO15 5DY. Entry £4, www.boat-jumbles.co.uk

■ **America's Cup World Series in Portsmouth**, 23-26 July,

www.americascup.com

■ **Torbay Royal Regatta**, 21-26 August, www.torbayroyalregatta.co.uk

■ **Portsmouth Boat Jumble**, 23 August, Fort Purbrook, Cosham, Hampshire. PO6 1BJ. Entry £4, www.boat-jumbles.co.uk

■ **Holyhead Traditional Sail Festival**, 28-31 August, www.oga.org.uk

■ **Essex Boat Jumble**, 30 August, Battlesbridge Antiques Centre, SS11 7RF. Entry £4, www.boat-jumbles.co.uk

■ **Northern Boat Jumble**, 6 September, Brookfield Farm, Middlewich, Cheshire. CW4 7LN. Entry £3.50, www.boat-jumbles.co.uk

■ **PSP Southampton Boat Show**, 11-20 September, www.southamptonboatshow.com

■ **Scotland's Boat Show**, 9-11 October, Kip Marina, www.scotlandboatshow.co.uk
Send us your diary dates to pbo@timeinc.com. See more online at www.pbo.co.uk

Improved permit renewal system for cruisers in Turkey

A new online e-Residence Application system is making it easier for cruisers in the Republic of Turkey to renew their permits.

The Ocean Cruising Club has been advised by the OCC Finike Port Officer Samet Gölgeci that a new online e-Residence system is making it easier and faster for foreigners to apply for residence permits and renew online.

Renewal procedures are now being processed electronically without going to the Provincial Directorates of Migration Management. A valid mobile number and email address must be provided for validation and notification.

The OCC says this is a welcome development at the start of the cruising season in the Mediterranean. First applications and applications for transfer between residence



permits are received electronically, printed and submitted in hard copy with backup documentation; foreigners are given an appointment for follow-up while the applications are processed.

Foreigners must present at the Provincial Directorate of Migration Management on the date of the appointment to complete the procedures. The appointments

given by the Foreigners' Departments prior to 18 May 2015 will be carried across to the new system.

An instructional booklet can be found online at www.goc.gov.tr – download the necessary forms and follow the instructions (presented in English) at <https://e-ikamet.goc.gov.tr>

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News from your cruising area

Send us your local news stories. Email PBO news editor Laura Hodgetts at news@pbo.co.uk, tel: 01202 440825, or write to the address on page 5

SOUTH

WIND FARM GO-AHEAD

The green light has been given for construction to begin on the 116-turbine Rampion Offshore Wind Farm. The 400MW-capacity Rampion project is set to become the first offshore wind farm off the South Coast of England. It will be situated 13km off the Sussex coast, between East Worthing and Brighton. E.ON has confirmed that it will invest in and build the £1.3billion development, alongside its project partner, the UK Green Investment Bank plc (GIB).

When complete, the wind farm could provide enough electricity to supply the equivalent of around 300,000 homes and reduce CO₂ emissions by up to 600,000 tonnes a year.

RTIR ON TV

Improved television coverage of this year's Round the Island (RTI) race will include live streaming to a global audience. An outside-broadcast production unit will provide live, commentated coverage of the 11 starts from the Royal Yacht Squadron and early finishes on race day, Saturday 27 June. Also new for this year are two 'Hub Clubs' at the Royal Southern YC in Hamble and the Royal Lympington YC in Lympington, where competitors can meet with friends and families after the race.

Race footage – broadcast on EventTV in Cowes, at the Race Hubs and on the official race website – will also include interviews with key competitors and race officials, audio interviews with leading competitors, live fleet tracking graphics, key results and weather updates. www.rtir.me



Ino's rescued crew at Trinity Landing

SOLENT SINKING

Seven people were rescued from the water after their yacht sank following a collision east of Bramble Bank, in the Solent. A full-scale rescue operation was launched on 6 June after a Mayday call was received by Solent Coastguard. The seven, including two women, were aboard the Cowes-based Corby 36 yacht *Ino*, which was in collision with the yacht

SOUTH-WEST

BOAT DONATION

A rescue boat donated to the village of Muchelney in the Somerset Levels by marine businesses has been given a new home on the Somerset coast. When Muchelney was completely cut off by flooding in 2013 for the second year running, exhibitors at London Boat Show bought a Rigidflex Newmatic 360 Safety



Members of BARB and Muchelney Parish Council with the donated boat

Valkyrie. Although *Ino* sank very quickly, fortunately all seven crew were already wearing lifejackets. They were picked up by a passing RIB then transferred to the Gosport independent lifeboat and taken to Trinity Landing, Cowes.

CHANNEL ISLANDS

IMPROVED BERTHING

Improvement work to visitors' berths and holding pontoons at St Helier Harbour, Jersey has been completed. An old link-span bridge within St Helier Marina has also been replaced by a 52m-long pedestrian bridge to improve access. The £3million project started in late September 2014 and was completed in April 2015. More than 20,000 yachtsmen visit St Helier each year and this development is promised to offer a significant enhancement of facilities for all harbour users.

WALES

TIDAL LAGOON: PREFERRED BIDDERS NAMED

The British construction industry is set to play a leading role in the delivery of the £1billion Swansea Bay Tidal Lagoon following the conclusion of one of the project's main civil engineering and construction

Rescue Boat for the village. Earlier this year, a 500m stretch of road into Muchelney was raised by 1.2m (4ft). Now that the villagers are confident they will no longer be cut off by flooding, they are permanently lending the boat to BARB (Burnham Area Rescue Boat) Search & Rescue. BARB spokesman Roger Flower said: 'The new boat doubles our capacity to help with flooding and rescues.'

LONE SAILOR RESCUED

A lone sailor was rescued after his yacht's rudder became entangled with fishing gear in rough conditions off the coast of Cornwall. The 11m (36ft) Nauticat *Thalassa* ran into difficulties while on a trip from Falmouth to Fowey on 16 May. The sailor had been motor-sailing in a Force 4 to 5 wind and spotted the fishing gear too late to avoid it. He cut the engine and took down the sail but conditions were too rough for him to use his dinghy to free the rudder, so he called the Coastguard.

Fowey's all-weather lifeboat arrived on scene within 30 minutes. A tow was attached to turn the yacht into the wind and tide and help free the obstruction. During this operation the fouling rope parted, and the lifeboat towed the yacht into Fowey. Adam Russell, on his first shout as duty mechanic, said, 'It was a good service: the sailor had done everything he could, then sensibly waited for help rather than endangering himself.'

Trevor Barrett

package tenders. Laing O'Rourke has been named as preferred bidder for the estimated £200million contract to deliver the lagoon's 410m turbine house and sluice structure block.

Following advanced works and value engineering, a fixed price contract will be signed later this year for the main build.

Tidal Lagoon Swansea Bay Plc has also named Welsh civil engineering company Alun Griffiths Ltd as preferred bidder for the £25million public realm ancillary works contract, which includes the breakwater surface, roads, slipways, utilities and landscaping.

Meanwhile, China Harbour Engineering Company Ltd (CHEC) has been named as preferred bidder for the £300million contract to provide marine works for the world's first tidal lagoon power plant. Approximately 50% of contract value will be spent on a British workforce, partners and supply chain.

IRELAND

MCIB ISSUE SAFETY RECOMMENDATIONS

The Irish Marine Casualty Investigation Board (MCIB) has issued safety recommendations following a fatal capsizing incident off Cork. The MCIB recommends

that the manufacturers of the Drascombe Lugger – an undecked open dayboat – investigate retrofitting a system to keep the vessel's centreplate deployed in the event of a capsize. The Drascombe Association is urged to highlight the possibility of these boats capsizing in certain conditions, and to encourage owners to upgrade their vessels to meet recent safety regulations.

On 13 August 2014, Doug Perrin, 66, drowned after his Drascombe Lugger *Zillah* gybed unintentionally and capsized. His two friends managed to swim ashore.

See www.mcib.ie

NORTH-WEST

PEEL MARINA DREDGING PROJECT COMPLETED

A seven-week project to remove 18,000 tonnes of silt from Peel Marina has been completed, restoring the depth of water around the pontoons 'to the correct level'. The dredging project, which cost several hundred thousand pounds, was undertaken to address a build-up of silt that prevented berths from being used. Investigations are continuing with the aim of finding a permanent solution for the storage of the river sediment. A site at Rockmount is being used as a temporary storage facility.



This home-made boat was found submerged off the Isle of Lewis

SCOTLAND

BOATING FATALITY

The body of a man who went missing in a home-made boat off the Isle of Lewis in the Outer Hebrides has been found. The submerged boat was also located following a major search and rescue operation involving Stornoway RNLI Lifeboat, numerous Coastguard rescue teams, Coastguard Helicopter R948, Hebrides Search and Rescue and Police Scotland.

On the evening of 26 May, Stornoway Coastguard received a report of an overdue boat, which had left Brevig Pier at 7am. At 8.50am the following morning, the missing boat was found submerged by Stornoway RNLI off the area of Point, Isle of

Lewis. A Maritime and Coastguard Agency spokesman said: 'The man's next of kin have been informed. Our thoughts are with his family.'

ARBROATH SEA FEST

Preparations are well under way for Arbroath Sea Fest 2015, one of the biggest summer events on the east coast of Scotland. More than 25,000 people are expected to flock to Arbroath Harbour on August 15-16, where the Limelight musical theatre school will undertake a series of flash mob performances, RNLI fundraisers will sell burgers, hot dogs and drinks, and Arbroath Ladies Lifeboat Guild will offer cream teas. Highlights will also include the launch of the RNLI Lifeboat, a raft race, a strongman competition and a pie eating contest.

NORTH-EAST

LIFERAFT RESCUE

Two men took to a liferaft when their small cabin cruiser sank in The Wash between Skegness and Hunstanton. Skegness and Hunstanton lifeboats launched on 19 May following reports of the stricken vessel, and the Coastguard helicopter Rescue 912

was also scrambled. After a brief search, the liferaft was spotted almost seven miles away from its last reported position by Rescue 912. Hunstanton lifeboat took the two sailors on board and then ashore to Hunstanton where they were checked over by ambulance crews.

In another rescue, two men made a Mayday call when their yacht began taking on water, north of the wind farm at Skegness. Lifeboat crews from Humber and Skegness were launched on 12 May and were guided to the stricken cruiser by a passing wind farm vessel. Helicopter 912 airlifted the two sailors ashore as they were suffering from the cold. The yacht was towed into Grimsby.

SOUTH-EAST

MUD RESCUE

A sailor was rescued from mud up to his shoulders at Queenborough, Isle of Sheppey, after running aground and attempting to lay out a kedge anchor. Coastguard rescue teams, firefighters and lifeboat crews were alerted by the sailor's wife on 6 June. The 74-year-old man had sunk into deep mud about a quarter of a mile from the shore. He was suffering from the cold but otherwise uninjured.

INLAND

COUNCILLORS SOUGHT

The Canal & River Trust is calling for people to stand for election to the charity's governing council. Nominations open on 11 September 2015 before voting takes place in November. The council is made up of 40 nominated, co-opted or elected members as well as the chairpersons of the waterway partnerships. This year's elections will decide four posts representing the interests of private boaters, boating businesses, a post representing the trust's staff, elected posts for volunteers and people who make a regular donation to the trust. Find out more at www.canalrivertrust.org.uk under 'About Us'; 'Governance.'



Last year's winners Gwilym and Eva Newnham on their 4.9m (16ft) Winkle Brig Constance

854978). For entry forms and information about the Maldon Town Regatta, visit www.maldonregatta.co.uk

EAST

MILES TO MALDON

Tow your trailer-sailer to Maldon to sail in the historic Essex town's regatta on the River Blackwater on September 19 and you could be in with a chance of winning the coveted PBO Miles to Maldon Trophy for the trailer-sailer that's been towed the furthest to take part. PBO's Dave Selby, who lives in Maldon, will be on hand to advise on launching sites and arrange berths, either overnight or for longer periods. Last year, when Gwilym Newnham towed his 4.9m (16ft) Winkle Brig from west Ireland, he set a new record of 503 miles.

Contact Dave Selby at dave@rollingassets.com (tel: 01621

PRACTICAL

Engine cleaning and painting

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- Drop keel removal and repair
- Upgrading circuit breakers
- How to remove stubborn fixings
- How to mend an outboard handle
- Making a windlass work with a deck-mounted chain locker

TESTED

Tiller tamers

■ Tiller locks, clamps and clutches to give you an extra hand on board

Snatch blocks

■ Useful and versatile to have on board: but which works best?

BOATS

Automated sailing

■ Could two daggerboards and a laptop change sailing forever?

Tug yacht test

■ 'A proper little ship'

SEAMANSHIP

Shore lines in the Med

■ How to safely take a line ashore

Emergency sail repairs

■ Tips for get-you-home repairs

CRUISING

Ramsgate

■ A Kent port with distinguished maritime heritage

Sailing the north-east

■ On an East Coast gaffer for a leg of the OGA Round Britain Challenge

**AUGUST ISSUE ON SALE
THURSDAY JULY 16**



Bargains of the month...

More great bargains in the Chandlery section starting on page 53

CHATHAM SPORT COMMODORE DECK SHOE

In leather, moccasin construction, stitched down onto a rubber sole unit. Leather laces, padded EVA insole. Available in walnut and navy/brown.



■ Jimmy Green Marine
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■ Force 4.
Tel: 0845 1300 710
www.force4.co.uk

PRICE MRP £51.95 NOW £34.95

AQ40S FLASHING, WATER-ACTIVATED LIFEJACKET LIGHT

Small size and ease of attachment make this suitable for retro-fitment to any inflatable lifejacket.



* The offer price of the Waeeco inflatable featured in last month's Bargains is £249.99 (RRP £289.99).

■ Gael Force
Tel: 01463 229400
www.gaelforcemarine.co.uk

PRICE RRP £19.99 NOW £14.99

Readers share their thoughts and opinions

FURTHER BENEFITS OF CROTCH STRAPS

The benefits are clear

■ I very much enjoyed your helpful article 'How effective are crotch straps' (PBO June), summarising the RNLI's findings. The benefits are clear. Although the article focused on the main benefits, helping the lifejacket to do its primary job of keeping the wearer afloat and upright, there are two other pluses which should not be overlooked.

Firstly, if the lifejacket is fitted with a safety harness becket, crotch straps will help to prevent the jacket from being pulled over the wearer's head

in the unfortunate event of him/her going over the side while attached to a safety line.

Secondly, if the poor soul has taken a dunking, and some kind person is trying to lift them back aboard, it is not uncommon to grab the first item of kit that comes within reach – and this just might be the lifejacket. In this case, crotch straps will help to ensure that the wearer doesn't disappear downwards, leaving just the jacket to be rescued.

Of course, it's better to stay safely on board in the first place: and as with the lifejacket itself, the old adage of 'useless unless worn' applies to the crotch straps too. Besides which, a crotch strap that



is flying loose in the wind like a tail is at best a nuisance, and at worst a serious snagging hazard. Perhaps PBO or the RNLI might follow this study with some views on the extra benefits of lifejacket sprayhoods as well?

Brian Oswald
Wickham, Hants

Keeping our seadogs safe

■ Re 'Paws for thought' (Letters, PBO April), I have always tethered my dog in the cockpit with a lead or a piece of rope etc. However, a heartbreaking incident last year involving a friend's dog made me reconsider this completely. He had tied his new pup in the cockpit and went ashore to get rid of some rubbish. He was only gone minutes, but returned to his boat to find the pup hanging over the side, dead, with its neck broken. He was devastated, and could only surmise that it had tried to follow him, ending in tragedy.

Only days after we heard about this, our own dog Molly fell down the companionway on our boat. Luckily I had tied her on with a piece of rope that, by chance, was just long enough to let her fall uninjured onto the cabin floor. This made us completely reconsider how we tied Molly in the cockpit.

Now we make sure that the tether is short so that she can't get out of the cockpit, and we also ensure that it's fastened so that she can't get to the top of the companionway either. We have managed to do this in such a way that she can still sit on the seat beside us.

In addition, she is never aboard without wearing her orange lifejacket which has a carrying

handle on the back. It doesn't bear thinking about, but at least this would give you something to grab or snag with a boathook or similar in the event of her falling into the water. We all love our dogs. Please keep them safe.

David and Elaine Crane
Astar of Down, Tobermory

Let's face it, please

■ While sailing across the English Channel from St Peter Port to Brixham recently we were being pushed to the east by tide and wind, so before reaching the first shipping lane we decided to tack and head west for a few miles. Doing this put us on a collision course with another yacht sailing approximately half a mile behind us to port. With our boat now on a starboard tack, we expected the other vessel to give way. As we got closer it was obvious this would not happen, so we diverted to pass behind.

In doing so, the reason became very apparent. The two persons on board were both relaxing in the cockpit, facing backwards, reading books. It was not until we were almost past the boat that they noticed us. At only 10m from their stern our boat was quite hard to miss, being 12m long with a 14m mast and big white sails.

Later in the day we heard a merchant ship calling up the same yacht asking them to change course, probably because the crew were still facing the stern, engrossed in their books, paying no attention to what was going on around them.

I will not name the yacht, but I will say they were flying a blue ensign and should have known better. Had we taken the same attitude to our watch there would have definitely been a catastrophic collision. The moral of this is not to expect other sailors to keep a good lookout or to obey the anti-collision regulations.

Neil Payne
By email

To cap it all

■ I read Hugh Morrison's 'Troubleshooting an overheating engine' article (PBO June) with interest. I tried everything to cure the overheating problem on my Volvo 2003 diesel engine, only to finally discover that it was a failing pressure cap on the cooling water header tank. I could literally blow through it! This allowed the water to boil at a lower temperature and caused the engine to overheat. I know this is an unlikely cause, but it's worth checking.

Mike Knowles
N Wales

Laylines, got me on my knees

■ I was interested to read Ben Meakins' article on sailing plotters and their functions (PBO July). I am confused, however, by the concept of 'historic laylines'. I currently sail without electronic wind instruments, but as a rookie club racer I feel I may be missing something.

Thanks for a great article and a very enjoyable magazine.

Phil Bryce-Grainger
Dinas Mawddwy, Gwynedd

Ben Meakins replies:

'Historic laylines' refers to a second set of laylines which show what the wind has been doing over a period of time. When sailing towards a mark, this shows you the range that the wind has been shifting through so you can make a decision on when to tack for your final approach to take the likely wind shifts into account. Hope that helps!

The best kind of smear campaign

■ Re 'Log impeller is fouled at every turn' (Ask the experts, PBO July), I experienced the same problem as reader Mike Kearley: and, as Richard Jerram replied, some manufacturers advise against the use of solvent-based antifouling. After trying several 'remedies', as did Mike, I smeared my paddle wheel with Vaseline, which I keep on board for battery terminals and electrical connections. It worked, and has done so these last 10 seasons!



PEYTON'S PICK FROM THE PAST



Taken from Practical Boat Owner July 1980

Several friends have tried my solution with similar results. Give it a try, Mike: what's to lose? It's cheap and effective.

Bob Hatcher, by email

More on the rocks

Re Sam Llewellyn's excellent article on the various types of rocks he has encountered (PBO July), if he ever ventures north of Ardnamurchan Point he will have to proceed with extra caution. Beyond there, we have two other types of rocks not described.

1. Moving rocks: These can move considerable distances, depending largely on which direction you approach them from – especially at night. The only way to combat this effect is modern technology, ie a chart plotter. This has a stabilising effect and will render most rocks of this type immobilised.

2. Magnetic rocks: Even the engine block on a modern yacht is sufficient for the boat to be drawn on to a magnetic rock. Our boat MV

Meridian is steel-hulled, and we can be aware of a magnetic rock several cables away! They can also affect the compass – on those boats that still use them.

For those of you who say 'what a load of old rubbish,' I say come and find out for yourselves; but proceed with extreme caution!

David Johnson
Ross-shire
Scotland

Knot, for publication

Re your deck shoes test (PBO June) I thought I should reveal my 'secret' knot for tying laces, which won't come undone except when you want it to. We all know that to make a reef knot you go 'left over right' and then 'right over left', right? But the secret here is that after the 'right over left' you make one more turn: see A in the photo, where for clarity I have omitted the bows. In B, the bows have been included, and in C the knot has been neatly worked up, which results in nicely squared-off bows. When you get into the habit, you may be able to use this knot for mainsail reef ties as well!

Dermot O'Brien, Co. Cork



Dermot O'Brien's 'secret' knot is claimed not to come undone except when you want it to

SEADOG OF THE MONTH



This is our cocker spaniel Hertta, enjoying the winds on the Finnish archipelago.

Tomi Pasanen



Seadogs galore!

Visit our seadog gallery at www.pbo.co.uk/seadogs or scan this QR code with your smartphone.

Send us your seadog photos for our web gallery and your pet may be lucky enough to become Seadog of the Month and win you £30

Fist desist

Re 'A fine fist of it' (Practical projects, PBO June), Charles Morland describes using a golf ball as a weight in a monkey's fist and says that he plans to use a wooden weight in another one. The UK Code of Safe Working Practices for Merchant Seamen, Chapter 25 (25.3.2) states: 'Vessels' heaving lines should be constructed with a "Monkey's Fist" at one end. To prevent personal injury the "fist" should be made only with rope and should NOT contain added weighting material'. The Queen's Harbour Master Portsmouth's LNTM No14/15 prohibits their use in the dockyard port.

Antony Hollinghurst, Fareham

PBO PUZZLE 191

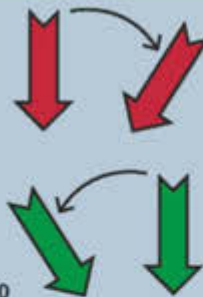
When the wind changes direction, it is said to veer or back, depending on which way it shifts.

A (red)
B (green)

Which of these is:

1. Backing (Northern Hemisphere)
2. Backing (Southern Hemisphere)
3. Veering (Northern Hemisphere)
4. Veering (Southern Hemisphere)

Find the solution at the bottom of page 110



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Dave Selby

Mad about the boat

Dave Selby is the proud owner of a 5.48m (18ft) Sailfish, which he keeps on a swinging mooring on the picturesque Blackwater estuary in Essex

The art of practical boat moanership

Top of the moaning to you all. 'Mustn't grumble' isn't a recognised adage round here



'The man's a genius... told me I need a list to starboard as well as a list to port!'

Sometimes I surprise myself, because just occasionally – not often – something goes right. I'm not talking about actual sailing, 'cos although I have survived on several occasions I've never had a day on the water totally free of recrimination, self-doubt, guilt, fear, shame or a pontoon-bashing cock-up. In fact, that was a good day.

Most of the same, apart from the pontoon bashing, applies on land: for while there's no doubt my Sailfish is practically a boat, I'm not really a very practical boat owner. I'm more of a Practical Boat Moaner, which strikes me as a good name for a magazine as it spells out the bottom-line fundamental truth of boat moanership, a field in which I consider myself virtually professional, if not an outright Olympic contender.

For a start, as everyone knows, B.O.A.T stands for Bring On Another Thousand. Admittedly, it's difficult to spend a grand on anything as modest as a Sailfish, but I've managed to, frequently and regularly, pretty much on a monthly basis. Most of all though, I hate boat maintenance. Nevertheless, over the last year I've been making a concerted effort. Firstly, I got my winter boat cover on early, in late March, which means it didn't shred until early April, which in my time frame is about the time it's supposed

to come off. Job done.

Then, like you're supposed to, I sat down to make a 'to do' list but I couldn't find the comprehensive article in PBO that explains how. Another job done. In fact, when I had a look at my boat, she looked fine to me, so I compiled a 'to-don't' list, which was very satisfying. That was until local shipwright Adi, who runs the local boatyard's care in the community programme for delinquent boat owners, took me aside and gave me an inspiring motivational pep talk, which was very depressing. Turns out I had loads to do if I was to get on the water in time for the Maldon Town Regatta in September.

Daily, for a whole day, I turned up in the boatyard and asked Adi what to do. He walked round my boat, pointing, tsking and tutting and sucking through his teeth, until my eyes glazed over and my mind went a bit foggy. I think the gist of it was 'pull your finger out.' Feeling depressingly motivated, I decided to varnish the coachroof grab rails. They didn't actually need doing, but as I had an old shred of sandpaper and didn't fancy lying under the boat to do the stuff that actually needed

doing, I set to with a relish bordering on vigour.

After what seemed like seconds I got a bit bored and joined the queue of the clueless for Adi's wise counsel. I grabbed a ticket from the dispenser outside his workshop and eventually, when my number came up, was ushered in. After I showed him my hands to prove I'd been doing manual labour, he nodded and said: 'I wouldn't bother varnishing today, there's too much moisture in the air and it

wrong shelf. Try again.'

Damn it, Adi was right. Craven and cowed, I crawled back on my knees to his workshop with the splodge, which turned out to be the right colour but fortunately was entirely the wrong stuff. My fault. I returned it with a heavy heart, but was almost euphoric moments later to find they really had run out of the right stuff. Joy. They even gave me a refund. Double joy. I skipped back to Adi's workshop for further instruction, hoping

I'd exhausted his patience and ingenuity. And then it

Craven and cowed, I crawled back on my knees to Adi's workshop with the splodge

looks like rain'. My heart soared, but just when I thought I'd got off he instructed me to buy some exotically-priced brown splodgy-flex to fill in under the grab rails before the rain came.

My shoulders sagged as I trudged to the chandlery, but my spirits rose again when I discovered they'd run out of brown. With a skip in my step I reported back to Adi, who said: 'No, go back and look again: you'll find the brown in among the white or black. What happens is that shirkers like you go to the chandlery, pick something up, get distracted talking to all the other slackers, forget what they've gone in for, then put it back on the

started to rain, just like he said it would. 'What shall I do now?' I said, with an expression of irrepressible eagerness. Adi saw through me, sighed, shook his head wearily and said: 'Go home, Dave, and have a cup of tea.'

And so came to a close the cheapest and most productive day I've ever spent working on my boat. In fact, I don't really know what I was moaning about. I'm obviously a lot more practical than I thought.

PBO LISTEN ONLINE
Hear Dave Selby's podcasts on the PBO website www.pbo.co.uk

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Sam Llewellyn

Flotsam and jetsam

Sam Llewellyn is editor of *The Marine Quarterly*, www.marinequarterly.com, and author of nautical thrillers. Three years ago he bought a Coribee on eBay

Inventory invalidity, inevitably

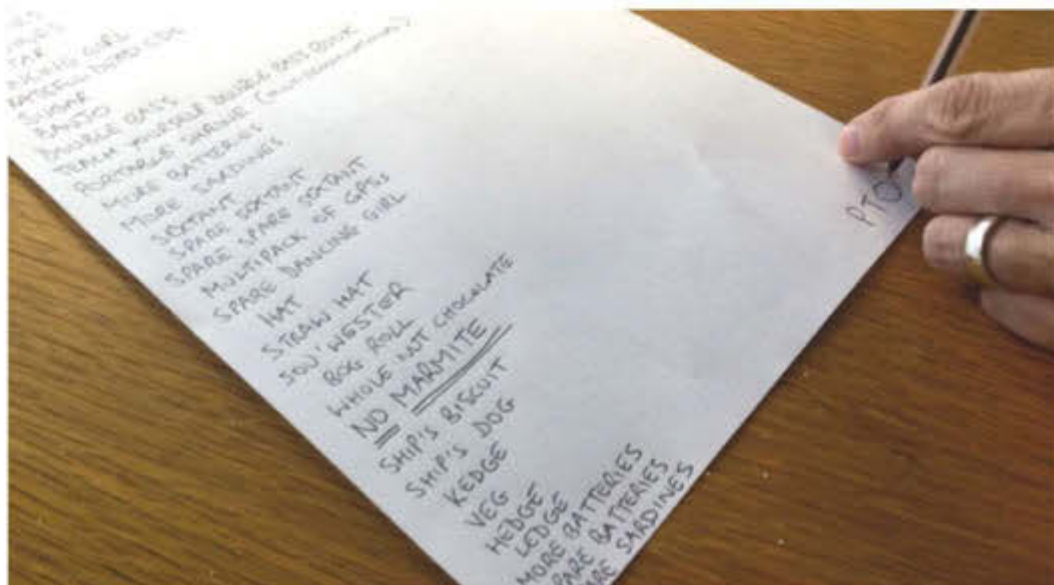
Shall we list the number of times we have finished compiling a list only to discover, when it's too late, that something of vital import has been omitted?

The clock said quarter to four in the morning, and a thin light was crawling in through the curtains. Under normal circumstances I would have ignored it, rolled over and collapsed into the welcoming pillow. But the circumstances were far from normal. In two short days we were off on the first cruise of the season, and there were lists to make.

Normally I forget everything not actually bolted to the boat. This time, I was going to make lists. Sails list: three of them, this year's treat, lovely and new from Crusader, cream, with a big cruising chute in cheerful red. Lazarette list: kedge and warp. New fenders, to protect the new paint. How can fenders cost that much? Don't get distracted. Warps, harnesses, tools, fishing stuff. Electrics list: solar panel, so I can pursue my sailing-only policy without running down the battery that runs the LED nav lights, the ancient echo sounder, the VHF and the stuff that you plug into an electric fag lighter socket.

List of pluggables-in: Tablet, with plotter on. iPod, for music. Phone for sending consoling text messages to nearest and dearest. Charts, paper, for use as backup. Breton plotter. Er... that's it.

List of home comforts: sleeping bag. All right, two sleeping bags, because there is still snow on the mountains and we will put one inside the other and hope for the best. Spare gas for Coleman lamp that provides heat as well as light. Hundreds of spare batteries, all sizes. List of books. PBO Almanac, small size, bless its heart. Reeds Almanac for 1988, which still contains tables for dipping lights and much other excellent pre-GPS



'Normally, I forget everything not actually bolted to the boat. This time, I was going to make lists'

stuff. Pilot books, heavily Sellotaped. Trashy novels, 16lb. *Bleak House* by Charles Dickens in case of dull days at anchor with gale screaming in shrouds. Book about gardening for days when weather so bloody awful that it is necessary to pretend we are not on the sea at all. Oh, all right, logbook.

Fun: guitar, obviously. Wine, more the merrier, plus whatever has been hanging around in the bilges since last year. Radio for listening to cricket on long tedious passages.

Food: tins of tomatoes. Tins of mackerel. Tins of sardines, for baiting lobster pot (pull lid half off, and Bob's your uncle). Oil, vinegar, salt, pepper, dear me, this lists business is boring. A few extras: Parma ham, foie gras, a touch of Beluga caviar, and perhaps a spot of Bollinger to wash it down? Here I notice that I have stopped writing, and am staring into space, eyes unfocused, the words, 'Dream on, baby,' ringing in the mental ears. Deep sigh.

A few tins of beer, then.

Now. Big bit of paper needed, for the list of stuff not to take. Once, we started cruises practically bubbling with good resolutions. The lazarette would be full of buckets of wax polish, lockers crammed with little plastic boxes of electric stuff we were definitely going to get round to installing on those long quiet evenings far from civilisation. This year's not-to-

Among the books is the fat folder of lists which has made life so smooth and easy...

take list says yacht wax, devices requiring installation with drills and screwdrivers, most tools except Swiss Army knife.

Which leads us to a list of stuff to take off the boat: about five miles of UV-degraded polypropylene line, bags of galvanised shackles shedding zinc like dandruff, two anchors of a design never before seen by land or sea. A towed log without its spinner, four broken burgees, courtesy flags for Croatia and Oman. Three wet cardboard boxes of stuff so

rusty that it is hard to say what it is, or was. Done.

Wash iron oxide off hands, place lists in folder. Off to shops and recycling centre. Home again, feeling smug. Then away across the wine-dark sea to the islands of the blest, where all is orderliness and watery joy...

I am fizzing along on a broad reach. The sails are drawing beautifully. The lazarette is a model of tidiness and economy.

The cabin is in apple pie order, books on the shelves, among them the fat folder full of lists which has made life so smooth and easy. How I love lists. I will engage the self-steering and go below, and make myself a cup of coffee with a chocolate digestive biscuit...

I cannot find the chocolate digestive biscuits. Check folder. The chocolate digestive biscuits got left off the ruddy list. The nearest chocolate digestive biscuit is 20 miles away upwind. Life without chocolate digestives is inconceivable. Ready about? Lee-oh. Lists? Waste of time. 

SUMMER AFTERNOON;
TO ME THOSE HAVE ALWAYS BEEN THE TWO MOST
BEAUTIFUL WORDS IN THE ENGLISH LANGUAGE

HENRY JAMES



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Andrew Simpson

Monthly musings

Yacht surveyor and designer Andrew Simpson cruises with his wife Chele in his own-design 11.9m (39ft) yacht *Shindig*. Read his blog at www.offshore-sailor.com

Bags of trouble

Surely high-end products deserve protection of comparable quality and value?

Regular readers of this column might recall Chele and I hunting for a Hypalon inflatable dinghy

back in 2013 to replace the Avon we lost the year before, hurriedly quitting an anchorage that had suddenly become dangerous. The vast majority of today's dinghies are made of PVC, which is susceptible to sunlight and its deleterious effects. Hypalon (more correctly called chlorosulfonated polyethylene) is almost immune and, therefore, much preferred where the sun is fierce.

The hunt was frustrating, but not fruitless. Thanks to Simon

Clark of Yacht-Tek, a good friend and energetic maritime entrepreneur, a

Caribe dinghy made in Venezuela was shipped into Barcelona and eventually delivered to us in Torrevieja. Its journey wasn't altogether a happy one. A Venezuelan customs official, with a craft knife rather sharper than his brain, slashed the box open to inspect the contents, thereby putting a six-inch gash in the dinghy's bottom. No matter. The dinghy was professionally repaired and we were offered a very reasonable discount.

If memory serves, the dinghy was delivered in March and lay on the coachroof in its rainproof bag until we arrived in mid-April. Since it was conveniently



RYA sailing instructor and Lanzarote liveaboard Keith Darbyshire adapted this vintage sailbag by sewing up the original end and fitting a couple of zips to enable the dinghy to be put in from the side. INSET The webbing straps on our original dinghy bag frayed after a mere 14 weeks

out of the way, and I reassured myself that it would suffer very little damage, we left it there while we generally potted and readied *Shindig* for sea.

By the time our early July departure date approached, 14 weeks had sped by.

Or I should say *only* 14 weeks, for we were astonished to discover that in this short space of time, the webbing straps securing the bag had become so

In this short space of time, the webbing straps had become so weak they couldn't even be used as grab handles

weak they couldn't even be used as grab handles. In our attempts to lug that inert lump to its designated position just forward of the mast the bag sort of burst as one strap after another parted, spilling acres of Hypalon in all directions.

Never mind, we told ourselves, we still have the old Avon bag. So we dug that out, and were disappointed to discover that this too had suffered. The straps could be torn apart by hand, but not as readily as the Caribe's bag; and clearly it had served for a much longer period. Nonetheless, to start with a problem that could only get worse would be a certain road

to future troubles. In the short term we simply wrapped the deflated dinghy in an old acrylic awning.

This brought us to the point where our squirrelling instincts proved to be a godsend. While clearing out a forepeak locker I came across an old sailbag that could have been around during the scourge of the Viking marauders. Where it came from is beyond memory but, stained and weathered though it is, the fabric is as stout as any I've seen.

Now, I'm sure you will have noted that I've used the word 'bag' very imprecisely. Things like rigid transoms and bottom boards have made the traditional stuffing of a bag impracticable. When opened up flat or nearly so, the modern enclosure is usually of cruciform shape on which the rolled-up dinghy is placed. Opposing flaps are then laid over each other, rather in the manner of a paper envelope, and webbing straps then hold the whole secure.

We tried stuffing the dinghy into the open maw of our vintage sailbag, but it was a considerable struggle. Clearly, we needed a better arrangement.

At this point fortune favoured us with the arrival of Keith Darbyshire, RYA sailing instructor and Lanzarote liveaboard. 'No problem,' he said while I continued my head scratching. 'Leave it to me. I'll sew up the original end and fit a couple of zips so the dinghy can be put in from the side. It'll cost you a beer.' And so he did, as you can see in the main photo.

So it is considerable gratitude to Keith for contriving an easy solution, but a distinct thumbs-down for manufacturers of high-end products that don't believe they deserve protection of comparable quality and value. The difference in cost between, say, durable polyester and vulnerable polypropylene webbing is negligible: derisory when compared to the value of a top-class inflatable such as the Caribe. Feeling somewhat aggrieved, I went public with my moaning and was dismayed to learn how many others had suffered similarly. 'Lifespan of a fruit fly,' one disgruntled skipper told me. 'I would rather they hadn't bothered.'

All of which should concern the manufacturers, don't you think?

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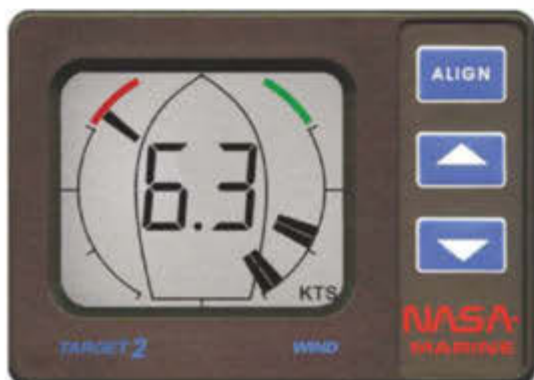
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Got a question? Email pbo@timeinc.com

Here's just a selection of the latest questions from PBO readers. Email or write to the address on page 5 and our experts will answer your queries

ENGINES

Upgrading the tube network

Q On my Horizon 273, the fuel lines are of reinforced PVC between the primary and secondary filters and on the fuel return to the tank. The tube from the fuel tank to the primary filter via the fuel cut-off valve is narrow-gauge, non-reinforced PVC. This was as installed when I bought her five years ago and no comment was passed on by the pre-purchase survey, although more recently eyebrows have been raised. It is possible these tubes are now 20 years old, and they are quite hard.

Replacing the reinforced tube is not difficult even if thicker-walled tube of ISO7840 is used, since the tube is the external part of the connection, held by Jubilee clips. However, the thinner tube seems to have some form of compression fitting that requires fairly thin-walled tube so as to fit within the connection, and I suspect that BS fuel tube will be too big. I assume that something similar goes down the inside of the tank since the fuel line to the engine comes out at the top. The tank itself is plastic, but I guess not PVC.

How wise is it to be using this type of tube to start with, and do I need to replace the existing? Can you comment on the smaller-diameter tube and how the connection is made?

*Phil Hanley
Southsea, Hants*

PAT MANLEY REPLIES:

It is not unusual to see this type of fuel pipe used in boats the age of your Horizon. In an ideal world, these days you would use a pipe to comply with the relevant ISO, but unless you are using the boat on the UK inland waterways under the Boat Safety Scheme there is no compulsion. I think it likely that the tube inside the tank will be rigid. The thin-walled tube could be replaced by copper tubing with the appropriate compression fittings or a 'like for like' replacement with similar plastic tube, which can be obtained from Hose World (www.hoseworld.com). This type of PVC tubing is compatible with normal

The large-diameter tube is the fuel tank overflow, which is looped. The thin fuel out is in the centre and the medium-sized return is on the right



compression joints, but ensure the tube and fitting sizes are compatible.

I see that the fuel delivery tube passes through a hole in the bulkhead that has no anti-chafe protection grommet: this could potentially cause chafe and failure of the tube. I would strongly advise

The fuel cut-off valve, with the fuel delivery tube passing through the bulkhead

that you provide suitable protection wherever the tubing passes through any bulkhead or similar. Ideally you would use a bulkhead fitting at each bulkhead (available from www.asap-supplies.com).

MASTS AND RIGS

Should I be getting rid of slugs?

Q My British Folkboat has a hollow wooden mast: I'm buying a new mainsail, and am wondering about the feasibility of using nylon slugs in the spar grooves, and not a bolt rope. This would mean that I could leave the luff of the sail on the mast when lowered, and it would make raising and stowing the sail much simpler. What might be the drawbacks? Someone mentioned the possibility of the slugs making point loads along the wooden lip of the groove, which could cause a failure at those points. Also, if in a wooden groove,

even a well worn one, could the slugs be more likely to jam than if in a metal channel?

*David Jenkins
By email*

MIKE COATES REPLIES:

I wouldn't recommend using a slug in a wooden sail track: as you say, if the track is worn the slug could jam. This is likeliest when the sail is being lowered as there would be less tension on the luff, which may allow the slug to cockle sideways in a worn area. It could also cause point loading damage to the luff groove, especially if the spar is made of a soft timber such as spruce. It may

even split away the outer edge of the luff groove due to the small bearing area of the slug compared to the load of the sail being taken by a continuous luff rope.

It's difficult to comment on your spar without seeing it, but it may be possible to fit an external track such as an Allen A26 (using the appropriate sail slide) to sit across the back of the current luff groove by planing a small flat across it, just wide enough to accept the track, and centre-screwing it into the back wall of the mast. Or, Allen's A626 has wings that could be screwed down the edge of the existing luff groove track.

THE PBO EXPERTS

To ask a question email pbo@timeinc.com and include your address. Pictures are helpful



SEA SAFETY
Will Stephens is Staff Officer Operations (Coastal Safety) at the RNLI



BOAT BUYING
David Harding is a regular contributor to PBO: his photo archive is at www.sailingscenes.co.uk



CRUISING
Stuart Carruthers is the RYA Cruising Manager and has sailed extensively



SAILS
Ian Brown of the International OneSails Loft group is an expert on sails



MASTS & RIGS
Mike Coates worked in the spar and rigging business for many years



SURVEY AND CORROSION
Colin Brown runs a marine survey and consultancy company, CB Marine Services



ELECTRICS
Paul Holland is chairman of the BMEA and MD of Energy Solutions (UK)



ENGINES
Pat Manley is a diesel engine course instructor and marine author

ENGINES

Heads up and overheating

Q I own an Orkney 520 powered by a 30hp long shaft four-stroke Yamaha. I also have a 2.2hp Honda auxiliary.

When the boat is under way, the bow rises considerably even though the outboard is trimmed right forward. This is with two adults well forward and all extra gear stowed in the forward locker, while other heavy items like battery and reserve fuel tank are in the midships lockers. I contacted the manufacturers to enquire about the possibility of fitting foils to the outboard to keep the boat more level in the water. They advised against this and went on instead about propeller size. Would there be a problem with fitting the foils?

A second question concerns the outboard steaming when I have been under way for a time at 75% throttle. I have had the impeller changed and have flushed through with fresh water more than once. The telltale has a good pressure and the engine otherwise seems to go well.

The manufacturer advised that it could be sea temperature causing this, but nobody else seems to have the same snag. This has occurred during July

and August off the west end of the Isle of Mull, so the sea is not that cold. Any suggestions?

Keith Brill

North Kessock, Inverness

PAT MANLEY REPLIES:

With regard to weight distribution, you seem to be doing all the right things about trimming your boat. I had a look at some photos of Orkney 520s under way, and although a few do show a bows-high attitude, others show it is perfectly possible to trim the hull properly.

A possible problem with fitting foils to the outboard leg is to do with the extra load put on the leg and engine mountings. Maybe a finer-pitch prop would allow higher rpm and more thrust to get you 'over the hump'. It would be worthwhile having a chat with Yamaha about the trim and prop, as obviously the boat can be trimmed properly. It could even be that with the loaded displacement of your boat, you just need more thrust (horsepower), although I note that the maximum recommended for the Orkney 520 is 35hp – only a little

more than you already have.

It could be worth taking all equipment except the essentials off the boat and trying it again.

Steamed up

Regarding your second question, I note that the telltale seems to show a good flow of water. The 'steam' from it at high power could suggest overloading, and I wonder if a finer-pitch prop would allow more rpm and better flow with less loading?

Otherwise, the 'steam' suggests that the engine cooling waterways are partly blocked. Once this occurs, it is quite difficult to clear them. Have you checked the cooling water intakes in the leg for any blockage? Perhaps your dealer would let you borrow a finer-pitch prop for a trial – that may help troubleshoot both problems.



ABOVE Keith Brill has queries about the 30hp long shaft four-stroke Yamaha he uses to power his Orkney 520



LEFT When the boat is under way, the bow rises considerably even though the outboard is trimmed right forward

ELECTRICS

Scale of charges

Q I have a Maxim 38 catamaran with two Yanmar 3GM30 engines and a 12V system: each engine has its own start battery.



The household battery bank is used for the fridge, autopilot, windlass and converter. We have no shore power and no generator. We live on the catamaran in Kenya and want to sail to Mozambique in a month. I have six 120W solar panels as a roof over the back of the boat, and this works well: but if there are a few days of rain the batteries lose charge.

I would like to connect the two outputs from the engines to a charger which charges the different battery groups. The household battery group is 600Ah. What would be the best option, bearing in mind that I want to buy a generator and have shore power?

Kees van Velzen

By email

PAUL HOLLAND REPLIES:

A voltage-sensitive relay would work well here. These join two batteries together when they detect a charging voltage and then isolate them when the voltage drops back. This allows you to use the engine alternators to charge other banks without modifying the wiring. The fact that the relay drops out when the batteries are not under charge means that you will not accidentally discharge the starter batteries.

50 of the most frequently asked boating questions are answered by our experts on the PBO website. Visit www.pbo.co.uk



GAS FITTINGS
Peter Spreadborough, of Southampton Calor Gas Centre, has 20 years in the industry



PAINT AND ANTIFOULING
Richard Jerram is former UK technical manager of International Paint



YACHT DESIGN
Andrew Blyth is a naval architect with interest in stability and buoyancy



TOILETS AND PLUMBING
Gary Sutcliffe of Lee Sanitation knows about holding tanks, toilets and plumbing



TRAILER-SAILING
Colin Haines is a design engineer who has trailer-sailed for 25 years



ELECTRONICS
Chris Ellery of Greenham-Regis Electronics is a former Merchant Navy officer



BOATBUILDING
Tony Davies has been building and repairing wooden, GRP and steel boats for 40 years



WOOD
Richard Hare is a wood technologist and long-time wooden-boat owner

TRAILER-SAILING

A direct bearing on boat launching

Q I run the Sea Scouts in Whitby and recently bought a second-hand laser SB3 for me to race and them to day-sail in. I previously owned two Solings which needed a crane for launching, a large RIB on a roller coaster trailer and assorted dinghies on combined trailers. I was never happy to immerse wheel bearings, especially if they contained brakes. The SB3 is marketed as a trailer-sailer, but if launching from a slip the whole wheel assembly is submerged, and as the boat weighs about 700kg, the trailer is braked. I seem to recall the Hunter Medina, a similar sized boat, having a piggyback system which avoided this situation. Can you suggest how I should proceed?

Alan Holmes
By email

COLIN HAINES REPLIES:

My second trailer-sailer required the trailer axles to be submerged about 3ft during launch and recovery. Changing the bearings was easy, fortunately, because

they sometimes didn't last for a year. Heavy 'marine' grease and fancy industrial greases with specialised performance claims were little help, apart from the sadly-missed Keenol grease which enabled the last set of bearings to survive for about three years. The hubs were fitted with grease nipples and the grease was retained inside the hubs by dust covers over the outboard ends of the axles. The inboard end of the hub carried a rawhide shaft seal rather than the more common rubber seal. My final method was to completely fill the hubs with grease: I only stopped pumping it in when grease came out of the dust-cap ventilation holes. A small internal pressure may have deflected the rawhide outwards slightly, so when water pressure pressed it against the axle, it improved the seal. Obviously, I didn't dunk warm hubs into cold water in case there was any remaining air inside to cool and contract when submerged, because water would then be sucked in.

Water on brakes generates two

Bearing races packed with a dollop of grease

problems, the obvious one being reduced braking capacity. The simple way of eliminating the water was to tow the trailer with the handbrake partly applied: friction rapidly heats up the brake drum and the water evaporates. About 100 yards of very slow towing was normally more than enough.

The other effect is corrosion due to seawater. My answer was to drill a hole in the backplate of the brake assembly, and then hold a hosepipe against the hole to flush out the seawater. I also applied zinc-rich paint to all static interior surfaces. Moving parts got a smear of Copperslip grease over the contact faces. I later saw a better trailer made with mountings on the spine for Hozelock-type connectors, prior to galvanising. Flexible pipes ran from the connectors to the brake backplates, thereby eliminating the sousing I got when washing out the brake drum interiors.

As regards the Bowden cables

actuating the brake shoes, hanging them vertically and pouring oil down inside them delayed corrosion of the steel wire cores. The cable ends naturally lifted up towards the brake drums, so the oil could not drain out and affect the friction between brake shoes and drums.

Obviously, a launching trolley would render the above comments irrelevant, but with your boat's 1.5m draught, making a trolley to provide adequate support would result in a heavy bit of kit. More weight would be added to the trailer when tracks for the trolley's wheels were added, so a stronger and heavier axle would be required. Your boat may weigh 700kg, but care will be needed not to make the trailer and all the kit it carries exceed 1,800kg, the maximum allowable weight for a single-axle trailer.



ENGINES

Cutless bearing replacement

Q I'm looking for info with regard to changing the cutless bearing in the P-bracket on my Princess 33. I'm hoping I don't have to pull the shaft, so if you can pass on any tricks or tips – everything from finding the holding-in lugs to fitting the new ones – that would be much appreciated.

Michael Powell
By email

PAT MANLEY REPLIES:

I'm not familiar with the shaft configuration on your boat: there seem to be a few different alternatives. The cutless bearing is likely to be held in place by two grub screws, often completely hidden under layers of antifouling paint. If you strip off the antifouling you should see the grub screw



Some engineers fabricate a tool like this to drive out the bearing

heads: they normally have hexagon sockets, which will also need to be cleaned out. They are quite small, so take care not to lose them.

You will need to remove the prop so that you can remove the bearing. You can try using a small hammer and some sort of tool to try knocking the bearing



The prop will need to be removed so the bearing can be taken out

backwards out of the P-bracket, but it may be a tight fit. Some marine engineers fabricate a tool to help drive the bearing out of its housing, and you may be able to borrow or hire one. Otherwise you may need to improvise!

When driving the bearing out, get a second person to hold a

heavy tool – a large 'lump' hammer is ideal – against the rear of the P-bracket to absorb the impact of the blows and prevent damage to the hull.

This procedure is detailed in my book *Simple Boat Maintenance* (Fernhurst Books, pages 112/113).

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The Maxi knack



'Swedish flair and superior performance': Peter K Poland salutes the extensive range of Maxi boats designed by Pelle Petterson

Mention Scandinavian-built cruisers in general and Swedes in particular, and solid stalwarts like Hallberg-Rassys, Najads and Malös spring to mind. Such quintessentially Swedish craft, with substantial displacement-to-length ratios and elegant interiors with rich joinery and blue upholstery, evoke dreams of blue water voyaging. And all have found great favour down the years with cruising sailors, even if they cost more than volume production cruisers from France and Germany.

But the most prolific Swedish builder and designer of cruising yachts followed a slightly different path. Indeed, the first world-beating design drawn by Pelle Petterson didn't even float. He studied design at the Pratt Institute in New York, and then – while a student of Pietro Frua – he drew the most successful sports car ever built by Volvo. Called the P1800, it even featured on the TV series *The Saint* starring Roger Moore.

However, competitive sailing was Petterson's real passion. He twice represented Sweden in the Olympics in the Star class, winning silver and bronze medals; he won World Championship medals in

the Soling class; he skippered Swedish America's Cup challengers twice; and he won the 6 Metre World Championships in 6s of his own design. Latterly, he received the King's Medal for his outstanding contributions as a sailor and boat designer, and most of these boats go by the name of Maxi.

As one would expect from a designer who collects awards for a sports car and wins yacht races galore, the Petterson-designed Maxis don't resemble the heavier and more traditional HRs, Najads and Malös. They combine Swedish flair with superior performance and volume production methods (at least in the early days). And – as with other Scandinavian brands – there's not a bilge keel in sight.

Hitting the bullseye

In 1972, the Maxi 77 (7.8m/25ft 6in LOA) set the ball rolling. Its transom-hung rudder, bulbed fin keel and sleek full-width coachroof were

unusual for its era. A conventional saloon, aft galley and separate forecabin (with WC located under the berth) gave plenty of space, while its DLR of 150, ballast ratio of 49% and sporty SA/displacement ratio of 18.15 ensured above-average all-weather performance for a volume-built family cruiser.

And how did the market react to this trendsetting yacht? An astonishing 3,900 were sold. Petterson hit the bullseye with his first Maxi. When asked 30 years later how he viewed the Maxi 77, Petterson modestly replied: 'I see that many boats seem to be well cared for and that the owners enjoy their sailing in it. That it still seems to fill its need is clear when owners tell of how happy they are with their boats.'

Larger (the 8.7m/28ft 6in Maxi 87) and smaller (the 6.8m/22ft 4in Maxi 68) models soon followed. Both shared the 77's looks, the distinctive blue flash on the



ABOUT THE AUTHOR

Peter K Poland crossed the Atlantic in a 7.6m (25ft) Wind Elf in 1968 and later spent 30 years as co-owner of Hunter Boats. He is now a freelance journalist.



Maxi 1050: available second-hand from £70,000

Sailing Scenes



Maxi 95: available second-hand from £10,500

Sailing Scenes



Maxi 84: available second-hand from £4,500

Sailing Scenes

galley situated aft on either side of the companionway steps. Once again, Petterson went for a moderate DLR of 222 and high-ish SA/disp ratio of 15.49 to ensure sharp performance.

Maxi 95 owner Richard Shardlow says: 'It's very spacious, certainly living up to the nickname of the Swedish Tardis. We have a cockpit enclosure that means the rear cabin is very useable even in inclement weather while in port. This gives privacy to guests. Would I buy her again? A very definite yes!'

Another owner, Rob Watt (cruiser captain at Greenwich Yacht Club), adds: 'My wife Kim and I were looking for a good boat with comfortable, spacious accommodation that the two of us could handle without any problems. I also wanted something that could hold its own in club races.' A 95 fitted the bill, and as Rob observes, 'she's an excellent boat, handles well in all conditions and is a good club racer. When we are on our four-week summer cruise the rear cabin becomes Kim's wardrobe and dressing room. The one problem was leaking windows: the design is "of the era" and they tended to flex. They have now been sealed and then bonded with Sikaflex.'

Runaway success

The 1977 **Maxi 84** (8.5m/28ft) was another runaway success, and around 1,350 were built. The Petterson Maxi recipe evolved with a slightly wider beam (2.9m/9ft 8in), slightly lower ballast ratio (37.5%) and more substantial DLR (268). The layout remained practical and traditional with amidships heads and L-shaped galley aft. A Volvo saildrive provides powered push, and it remains a marvellous cruiser to this day.

A subscriber to an online forum recently asked: 'I'm looking at a Maxi 84 which seems well specc'd and is a good price. Has anyone any experience of these boats? We are looking for something that will go well round the cans but will also cope with west of Scotland cruising.' One respondent replied: 'I have had two 84s, one in the UK and now another in Norway. It's a safe family boat: good in a blow, easily sailed single-handed and with lots of room inside.'

'Fast? Yes, if you sail it right. I've had 7, 8 and even 9 knots both up and downwind and won handicap regattas! The latest win was last year. Total ownership is more than 20 years.'

Another sailor replied: 'The Maxi

coachroof and coaming sides, and good performance. The smaller 68 boasted a ballast ratio in excess of 40%, a DLR of 205 and SA/displacement ratio of 14.99. These figures, combined with a fin-keel draught of 4ft 3in, gave sailing qualities that 'same era' owners of similarly-sized bilge-keelers like Westerlys and Snapdragons could only dream of. In total, 1,295 Maxi 68s were sold.

The 1976 **Maxi 95** (9.7m/32ft LOA) introduced another 'first' for Petterson – a separate twin-berth stern cabin and a centre cockpit – but these new characteristics were not allied to a heavy long-keeler (as on similar-sized early HRs).

The sleek 95 has a low coachroof, skeg-hung rudder and sharply raked fin keel. The engine lives well forward, placing its weight low and in the centre of the yacht to maximise stability and minimise pitching. The saloon is comfortable and practical, with an enclosed heads compartment and



Maxi 999: available to buy second-hand from £29,000

Sailing Scenes

84 is about as close to the ideal boat for the uses you describe in terms of pleasure per buck spent. Not the fastest in light airs, but it's competitive in moderate winds upwards. If there's a good No3 with the boat that can be sheeted inside the shrouds, it will point really well in a blow and little can touch it. The windward performance is useful and the boat will keep you out of trouble due to its stiffness. Like all boats, some will have issues, so caveat emptor applies!' This particularly applies to elderly Volvo diesels. Spare parts can be expensive.

Maxi 84 owner Alan Jeans says: 'I've owned my 84 *Snowgoose* for about six years. I have cruised extensively in the Clyde, the east coast of Ireland, the Irish Sea and North Channel including Rathlin Island, and up the west coast of Scotland as far as Tobermory. I bought the Maxi because I was really impressed with the build quality, the space inside and the sailing abilities. I would happily recommend Maxis to anyone considering purchasing a boat – especially an older one – as they are so well built.'

By the time the 84 was built, Maxis were also gaining popularity for charter in the Med. Those were the days when boats around 30ft were the norm rather than the exception in flotilla fleets. Popular charter company Sailing Holidays Ltd – winners of The British Travel Awards 2014 'Best Holidays

Company to Hellenic Europe', silver in the 'Best Activity Holiday Company' category and bronze in the 'Best Family Holiday Company' category – now buys fleets of brand-new yachts for its flotillas. However, it still uses its older Maxis as lead boats crewed by its employees.

Amy Neilson (daughter of founder and MD Barrie) says: 'All our lead boats are still Maxis, a mixture of 95s and 100s. They have been our lead boats since 1990 and are still going strong. We have bought a number since then and each crew has added its own modifications over the years.

'They offer unrivalled solidity, and have excellent onboard storage room that is essential for carrying spare parts to keep our flotillas running smoothly. These models have a fantastic layout for three crew members to live on board. The centre cockpit splits the living area, and the aft cabin – affectionately known as the "dog box" – offers more space and privacy than found on other boats of a similar size.'

A desirable yacht

As the 1980s approached, Petterson launched the Maxi 108 (11m/36ft LOA). This centre-cockpit fast cruiser adopted a new look, substituting a conventional coachroof for its earlier full-width cabin top. It's a desirable yacht that sails well, thanks to a DLR of 220, ballast ratio of 38% and SA/



Maxi 33: available second-hand from £30,500

Sailing Scenes

disp ratio of 17.5. The 9.4m/30ft 10in Maxi 100, introduced in 1982, followed a similar format with the addition of a fixed wheelhouse 'lid' over the front of the cockpit.

When he introduced the 8.3m/27ft 3in Maxi Fenix 8.5 in 1981, Petterson changed to fractional rig for this performance fin-keel cruiser. He also updated the styling. The change was obviously well received, because around 1,300 were sold. The accommodation plan features a separate forecabin, a heads area just aft of this, and a choice of a dinette or conventional layout in the saloon. Large quarter berths with an optional infill (to convert this to a cosy double) stretch back under the cockpit. A DLR of 192 and ballast ratio of 35% ensure that the Fenix 8.5 is a sporty rather than staid yacht.

Fenix owner Graham Bremer says: 'I was looking for a modern, easily-handled yacht for the two of

us retired folks which would offer effort-free coastal cruising.

'Before then I was a wooden-boat enthusiast, but there was too much labour! I needed an easily-maintained GRP yacht with a well-crafted wooden interior, and found a Fenix with a new engine and saildrive!

'Maxi yachts have a reputation for build quality, safety and performance, and all the criteria were met. The yacht handles easily and predictably, both under sail and under power in the marina. The self-tacking jib arrangement is a joy: no more winch grinding and, allied to a powerful fully-battened main, provides progress even in Force 2.'

This move towards more contemporary styling, a choice of cruising or racing accommodation layouts, fractional rig and pepped-up performance continued with the 10.5m/34ft 6in LOA Maxi

Mixer in 1983. A DLR of 188, ballast ratio of 40% and SA/disp ratio of 20.0 tell the tale. Petterson said that finish quality moved to a higher level when Maxi production moved under the wing of Swedish motor-cruiser builder Nimbus, and added: 'Buyers now wanted higher quality and more elegant styling on the boats. By launching the Maxi name and making boats that differentiated themselves from the older versions, we hoped to meet this demand.'

'It's possible our move came a little late; the competition had increased and it was difficult to build quality boats at good prices. Even if Mixer did not become a great commercial success, its lines still bear appreciation today.'

This change of tack continued with the 1985 **Maxi 999** (9.9m/32ft 6in LOA), the 1986 Maxi 909 (9m/29ft 6in), the 1988 Maxi 39 and the 1990 **Maxi 33**, which was a more 'cruisey' development of the 999. All were fine yachts and were finished more luxuriously than earlier Maxis, but they sold in smaller numbers.

True to the classic Scandinavian look

By the time the **Maxi 1000** (10.2m/33ft 6in LOA) hit the water in 1993, the new look had definitely come of age and this model was a great success. The conventional modern accommodation with forecabin, spacious saloon, forward-facing chart table area and aft double cabin and heads is beautifully finished. Extensive gleaming joinery and blue upholstery are true to the classic Scandinavian look.

To get an owner's view, I asked Charles Price why he selected a Maxi 1000. He said: 'I was looking for a good-quality sailing boat around 10m which I could race if I wanted, but primarily as a quick, good-handling cruiser. I read reviews and looked at a number of boats and narrowed it down to a Maxi 1000 or a Westerly Storm. A friend had sailed Maxis for some time and was very impressed, so that helped.'

'She handles very well in heavy weather. She is a fin-keeler, inevitably more lively than a long keel. You need to get your sails balanced and make sure you reef in time, but otherwise there's no problem at all. There's very little weather helm, and I have yet to find conditions where she will not heave to, which is very useful when short-handed.'

When I asked if she had lived up to expectations, Charles replied:

'In a word, yes. I occasionally look at other boats at shows and so on, but have yet to find one that ticks any more boxes for me. I have decided to keep her until I need to downsize, so I have gradually been refitting/upgrading with new sails, a heating system, a cockpit enclosure, bowsprit etc.'

'Though she's built to sleep seven she's very comfortable for two couples over a prolonged period. The aft cabin is a good size and the forecabin ample too. One other great feature is good locker space, particularly in the cockpit with a huge sail locker and two very spacious lazarettes. She's just a really well-designed boat and fun to sail!'

David Williams, who enjoys cruising his Maxi 1000 as well as taking part in the increasingly popular two-handed races run by the Royal Southampton YC, is another satisfied owner. His previous boat was an X³/₄-Tonner and he changed to the Maxi five years ago because 'I had sailed on one and also knew one of the most successful owners in the JOG fleet who had three Maxis. It's an all-round boat that does everything: it can be a single-handed or a couples boat, or a long-distance cruiser.'

He has fitted a bowsprit to fly small and large asymmetrics, adding: 'The small sail is ballistic in its sweet spot but a nuisance if you have to run, as it is cut to fly on a spinnaker pole, so gybing is a big work-up. The larger asymmetric does not fly effectively below 150°, and despite being easy to gybe I don't think it pays unless you have a planing hull. So this year I'm

going back to a symmetric kite.'

Many ARC and Transquadra sailors come to the same conclusion. Unless a yacht planes, continuously gybing an asymmetric down a deep run can be a pain; while a good old-fashioned symmetric spinnaker can gobble up the miles with the wind almost dead astern. When asked if he would consider changing boats, David replies: 'Maybe. I would go down to a Maxi 999 and keep hold of my gear.'

An exceptional fast cruiser

As the millennium loomed, Petterson brought out the 10.5m/34ft 7in **Maxi 1050**. With a DLR of 167 and SA/disp of 18, this elegant and comfortable yacht has excellent performance. As with other more recent Maxis, this is combined with a high-quality finish, making the 1050 an exceptional fast cruiser. A bulbous fin keel puts the CG low and ensures good stability.

Maxi 1100: available second-hand from £95,000



Sailing Scenes

Maxi 1000: available second-hand from £47,500



Sailing Scenes



Maxi 1300: available second-hand from £162,500

Transatlantic voyages prove the point. In the 2009 ARC, the family-crewed 1050 called *Minimaxi* won Class F and came 7th overall out of 158 monohull cruising entries. She also won the prize for Best Performance by a Family Boat.

Loosely translated, the French skipper wrote about one squally night wherein 'we decided to play with the surrounding clouds. The first of these was no big deal, but the second was unreal. Ronan was on the helm, Laurent held on to the spinnaker sheet, the yacht's stem played torpedoes for minutes on end and our three-day-old speed record of 15.3 knots fell as *Minimax* vibrated from masthead to keel tip, hitting 17.3 knots'.

That must have been some ride, and proves once again how a well-built family production cruiser-racer can cross oceans at surprising speeds.

Another French owner, Eric Bompard, entered his Maxi 1050 *Boulinou* in the 2014/15 Transquadra race. This event, very popular in France although it is yet to attract much British interest, is open to amateur crews who are over 40 years old, sailing IRC-rated yachts up to around 40ft. There are separate classes for solo and two-handed crews and the race kicks off from two starts, one in Barcelona and the other in Saint-Nazaire. Stage one stops in Madeira then the combined fleets sail on to Martinique.

Eric's solo transatlantic trip took 17 days 16 hours and he won his division. Via another loose translation, he said that at one stage 'I made a magnificent tack of a bit over 1,000 miles under spinnaker on port at 155° to the wind. My arms and the halyard were well worn, but all went well. I limited breakages to just one

Maxi 1200: available from £150,000



ripped genoa. This was satisfying when I saw the problems some had. Boats adrift, shipwrecks... I wasn't there to experience that sort of thing!

'My boat's hull form gave me an advantage compared to some of my competitors.'

Eric beat a JPK 9.60 into second place and an A31 into third, both of these brands being dedicated racers compared to Eric's trusty Maxi 1050 fast cruiser.

The **Maxi 1100** (11m/36ft) that followed is very much a development of the 1050; elegant, beautifully finished and no slouch. Gary Heward says he bought a 2000 example, attracted by its build quality, pedigree, performance and reputation as a cruiser racer. He is another owner to enjoy double-handed racing with the RSYC, saying: 'I won offshore series in IRC class 2

last year. I also started racing single-handed with SORC in 2014. After the Solo RIOW, I took part in the solo Celtic challenge from Falmouth to Kinsale, then round to Dingle and a long leg back to Plymouth – 52 hours.

'In the *Yachting Monthly* Triangle event I was first in class 2 and second overall, beaten by a J/105. An X332 was our closest rival. It was a light weather race; wind more constantly above Force 4 would have suited us better.' When I asked what he likes about the boat, he replies: 'It's a real cruiser-racer – good accommodation, nimble and performs well, particularly upwind in strong winds. During the Triangle Race I was asked why we did so well with a full complement of crockery and the cockpit table onboard!'

Having owned boats ranging

from a Hunter Impala 28 to a Sigma 362, Matt and Jean Findley also went for a Maxi 1100. In addition to cruising, Matt entered the RSYC two-handed series, winning comfortably in a fleet of 30 yachts that included strong opposition from J/105s and J/110s.

With his son Mathew as crew he also won Class 1 in the two-handed *Yachting Monthly* Triangle race, all of which goes to prove that a well-designed quality Swedish cruiser can hold its own against sporty and spartan racer-cruisers, thereby offering the best of both worlds.

Nicely finished

After being built (briefly) by Najad when Nimbus ran into financial troubles, Maxi has now been taken over by the successful Delphia yard in Poland. Two models – the recent **Maxi 1300** and new **Maxi 1200** 40-footer – are currently available. Both are designed by Pelle Petterson, and the new 1200 has an attractive interior design from Tony Castro. Andy Horwood of the Maxi Owners Association (and owner of a Maxi 1100 that he cruises extensively from Hamble and races in the RSYC double-handed series) went to the 2015 Düsseldorf Boat Show to look at the first Delphia-built 1200.

'We were pleasantly surprised,' he says. 'Initial thoughts are that the new boat definitely has the "Maxi feel". It was nicely finished with thought to detail, albeit with a few teething issues you might expect in any new model.'

The construction methods follow the Maxi 'way'. Carbon reinforcements beef up the grid that takes loads from keel and rig, while the hull and deck are laminated in vinylester resin around a PVC core. Designer Pelle Petterson comments: 'The Maxi 1200 is meant to be very fast and very comfortable, elegant and easy to handle.'

She certainly looks the part, and all bodes well for the new UK dealer Russell Hodgson of Regatta Yachting Ltd, who says the new Maxi 1200 comes to Port Hamble in late July and makes its UK premiere at SIBS. The price looks attractive, so these new models have every chance of maintaining Maxi's enviable reputation for producing desirable fast cruisers.

NEXT MONTH

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Bearers of good news



With the propitious stroke of luck that *Hantu Biru* has a right-handed prop, it's time to glass in new engine bearers, fit a shaft seal and align the engine. David Pugh reports

Hantu Biru's original engine bearer was a simple affair – a single hardwood board glassed in place straight across the engine space, with the engine bolted down to it.

The glassfibre work was probably carried out with the engine in position, which would have been an easy proposition with a lightweight,



The original engine bearer was fixed transversely across the engine space, shown partially cut out

flat-bottomed unit such as the Watermota Super Shrimp originally fitted. Our BMW D7, though light by diesel standards, is heavy to move in a confined space, and has the usual arrangement by which the engine is slung between four mounts, making a flat board impracticable. To install it, we needed to completely strip out the old engine bearer and come up with a new design.

The original glassing in had been carried out using polyester resin long after the hull had cured, and had not bonded well: once the engine mounting board was cut in two, most of the glassfibre simply peeled away. This left us with the hull shape on which to build our bearers. *Hantu Biru*'s bilge is steep at this point, so they would need to cling on at angles of 45° or more – a tricky proposition when working with slippery resin.

Veering to starboard

An additional complication which we realised part way through the process is that the original shaft log is not aligned with the boat's centreline, offsetting the propeller slightly to starboard. For a right-handed propeller this would alleviate paddlewheel effect, but for a left-handed prop it would exacerbate it. We were lucky – our engine rotates anticlockwise viewed from aft, but the gearbox reverses the rotation, giving us a right-handed prop. Had the opposite been true we might have had to re-drill the shaft log and pack the fittings, but as it is we hope the slight offset will aid handling. It does, however, mean that to obtain correct alignment at the coupling the engine is not quite straight in the engine space, which explains any asymmetry you may spot in the photos.

Initial alignment

Last month, we made L-shaped steel brackets to fit the horizontal rubber bushes at the rear of the engine, and strips with welded studs onto which all four mounts bolt down. To support these, we opted to make boxes from 18mm plywood, shaped to fit the hull and with rebated tops to house the metal strips so that they sit flush with the timber. The mounts are fitted to the bellhousing and gearbox, so we left the rest of the engine off for ease of handling.



1 The first step was to make the rebated plywood strips on which the bearers fit. The metal is bolted to the plywood – we later encapsulated it in glassfibre.



2 We bolted these to the engine mounts and put the gearbox in position. A stretcher bar with a car jack temporarily supported the front. The corners of the beds are in contact with the hull: we needed them as low as possible.



3 After our first offer-up we held the aft mounts apart with a plywood stretcher bar to prevent them sagging together.

Building the boxes

The fronts of the plywood boxes were the most critical parts, as they needed to be shaped to fit the hull, and to be as close to vertical as we could make them in order to transfer the load evenly. Before starting, we checked that the boat was level port-to-starboard – she was, or close anyway – and aligned the engine so that the propshaft coupling mated evenly.



1 Using a small spirit level, we marked the hull vertically below the front corners of each bearer. We checked this with a square to see if the bearers were level – they were.



2 With the hull marked, we measured and noted the height of each side of the bearer...



3 ...then used a profile gauge to record the profile of the hull between the marks. These were sufficient to mark and cut the shape.

4 After a few trial fits, mainly to hollow out the bevel with a belt sander...



5 ...the front fitted the hull neatly.

6 Once both fronts were made, we secured them to the top sections with screws and cautiously backed away the jack. The engine sat snugly in place, retaining its alignment with the shaft.



7 Careful measurement showed that the side pieces of the boxes were almost exactly triangular, so we cut triangles to shape and chamfered the edges to fit the hull.



8 We first dry-assembled the boxes with woodscrews...



9 ...before dismantling them again and gluing them together with filled epoxy. We also filleted the inside corners of the box with an epoxy mix.

Fitting the bearers

The bearers were already strongly constructed thanks to their internal fillets, but to waterproof them and add strength we now needed to epoxy them to the hull and cover them with glassfibre. While the initial fillets set, we kept the engine in place to ensure the alignment couldn't slip.



1 To locate the bearers, we bolted them to the engine mounts, put the engine in position and aligned it with the shaft coupling, then drew around the bearers.

2 We applied a generous layer of epoxy to the hull, following our marks, before putting the engine back into position and realigning it.



3 With the engine in place we carefully filleted around the bearers, then let the epoxy harden before removing the engine again.

4 To remove amine blush and any rough patches we gave the area a sand with 40-grit paper, then wiped over with acetone.



5 We reinforced the fillets to the hull with glass tape...



6 ...and primed any remaining bare timber with epoxy...



7 ...before covering the whole area with glass cloth and stippling epoxy into it until it was fully wetted out.



8 The top sections and all the joints were reinforced with extra layers of cloth.



9 Once the epoxy had cured, we sanded the area and cleaned it with acetone...



10 ...before coating the whole area with Danboline bilge paint to protect the epoxy from water and oil.



11 All that remained was to check that the engine still aligned – which, to our relief, it did!

NEXT MONTH
Cleaning and painting the engine, fitting a shaft seal and final alignment



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ABOVE *Trinity Star* under way in the Solent
RIGHT One of the new autopilot's two p70 control heads



Upgrading an autopilot

Alan Watson rethinks the autopilot system on his 40-year-old Nelson 42

T*rinity Star* is a Nelson 42, now just over 40 years old. I have owned her for 12 years and in that time have steamed over 7,000 miles and done a great deal to her including fitting new engines and stern gear, rewiring, re-plumbing and several changes of electronics.

Last year the navigation system was upgraded to the Raymarine

e-series display, Class B AIS and a new fishfinder module, and this year it was the turn of the autopilot. I had fitted the Raymarine 400G autopilot soon after I bought the boat and it has performed flawlessly for all these years. It can steer the boat better and with less effort than I can, particularly in following or quartering seas when the Nelson can be a bit twitchy.

After some experience with the new Raymarine EV1 heading sensor on another vessel, I decided to upgrade with the expected benefits of more accurate heading information and a better display on the p70 controller as well as improved autopilot performance. The improvement to heading information should in turn lead to better performance on MARPA, which is very dependent on stable and accurate heading information.

ABOUT THE AUTHOR



Alan Watson is an ex-merchant navy radio officer and broadcast consultant.

He runs *Trinity Star*, a 12.8m Nelson 42 powerboat.

System implications

The 400G autopilot consists of a course computer unit which is connected to the hydraulic rudder actuator, a rudder position sensor, a fluxgate compass and the two control units. The course computer is then connected to the main navigation system via NMEA0183 or SeaTalk. When the main system was upgraded last year, most of the SeaTalk was replaced by SeaTalk^{ng}, a very straightforward system of ready-made leads and junction boxes based on NMEA2000.

The system has a backbone with spur cables to each unit on the system. For the new evolution autopilot there is a SeaTalk^{ng} connection from the course computer, which also connects to the pump and rudder position sensor. The heading sensor and the two control units connect to the SeaTalk network rather than to the course computer.



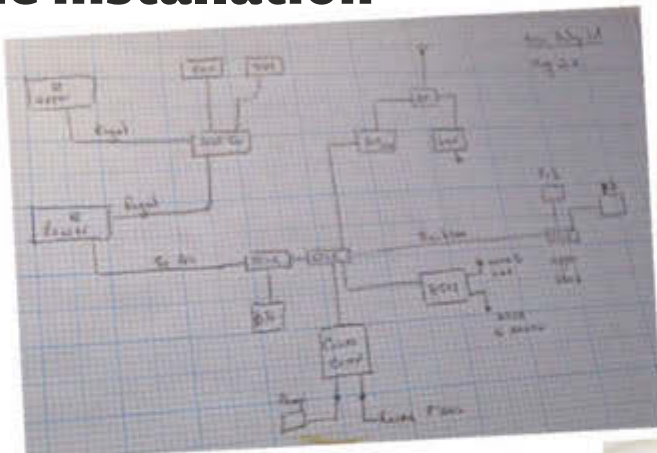
The course computer is connected to the rest of the system via SeaTalk^{ng}

INSET The new EV1 heading sensor

Planning the installation

As the leads are ready-made, some careful measuring is necessary – and it is also worth checking what comes in each box as many contain a lead, and if you buy one of the system kits it comes with quite a selection of leads and fittings.

One good piece of news is that the new p70 controller fits the same size panel hole as the old one, saving major carpentry. There are two types of controller, one with buttons intended for sailing vessels and one with a rotary control for power: I went for the rotary one.



ABOVE I planned the system carefully, especially measuring the lengths of leads required for the SeaTalk backbone
RIGHT Initial calibration was a simple process



The rudder sensor could be reused, and provided a useful reference to check alignment

The rudder position sensor is the same too, so the old one was left in place (which saved a lot of work).

Before I started pulling things apart I noted the heading from the old system to give a starting point for setting up the new and also centred the tiller, although I could use the alignment mark on the heading sensor which was staying put.

The first task was extending the SeaTalk backbone (blue cables) to the upper helm position where the i70 and the heading sensor were connected. I was grateful

that the locking collar for the connections is on the module and not the cable, which meant the cables would go through a 12mm hole. The work to put in the rest of the system was very straightforward and resulted in a simpler system with a big heap of cabling removed.

The SeaTalk^{ng} network requires a single source of 12V to power it: this can either be fed direct on to the network via a red cable or can be sourced from the course computer. I elected to use the red cable so that the whole network remains powered even if the

autopilot is switched off for any reason, so I made sure that the little slide switch on the course computer was set to 'off'. The system powered up with no drama, and the initial setup was amazingly simple. All I had to do was tell the system what sort of boat it was fitted to and set the rudder centre point and limits. To do a rough setting of the compass, I rotated the sensor in its mounting until the reading was the same as I noted on the old system, and then clipped in the bezel to lock it in place.

Sea trial

The final task was to go to sea and set up the compass before seeing how well the system performed. The Evolution will establish and store its own deviation curve over time, but I wanted to get this done immediately. No button pushing is necessary: you just do a few slow circles and then check it has stored a figure (it's under 'diagnostics'). Mine showed 5° of deviation, which was the same as the previous system. It was then a case of setting the compass to align correctly with north. The easiest way to do this is to put on some speed and go with the tide, and set the compass to agree with COG. The heading can then be fine-tuned manually, but I found it was spot-on.

Having done this, I checked on a couple of transits and then put the radar to overlay the chart plotter. As long as the radar heading line has been set correctly when installed, the overlay should be perfect – and mine was. I then

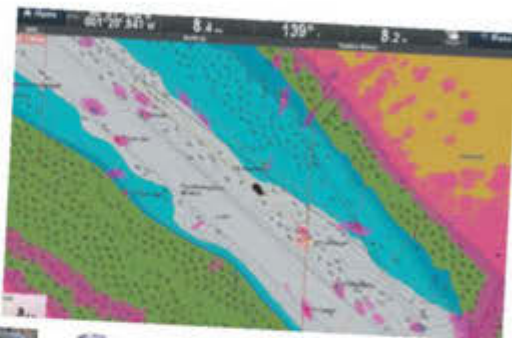
enjoyed myself for the afternoon, playing with my new toy. The new autopilot held course well, picked up routes from the chart plotter and did everything I expected. The new facility of 'power steer', where I was able to drive the vessel from the knob on the p70, could prove useful. It was a fairly calm day but Calshot corner obliged with a few bumps, so I was able to try

the course holding from different directions and it lived up to expectations.

The last test was of MARPA, and this was particularly pleasing with

more stable vectors and data than the old system. Over the season the system will get a thorough testing, but initial results were excellent.

BELOW the new autopilot picked up routes and tracks from the chart plotter straight away



ABOVE MARPA is now noticeably more accurate, and you can see that the radar overlay lines up perfectly with the chart

Raymarine is offering up to £400 cashback on autopilot systems until 30 June 2015 – visit www.raymarine.co.uk/summer15 cashback for more details.



Shortening sail single-handed

Being able to reef quickly and easily can take a lot of the stress out of sailing single-handed. Ben Meakins tries out some of the options for shortening sail on your own

In Pete Goss' classic account of his Vendée Globe campaign, *Close to the Wind*, he tells the tale of a boat show encounter with a member of the public who assumed that single-handed sailing meant sailing with one hand tied behind your back.

Sailing alone isn't usually quite that difficult – and once you're out there, the sailing part of single-handed sailing is relatively simple. What is more daunting is what happens when you get closer to land, or need to come alongside, and carry out the sail handling jobs on board which usually take a full crew.

We'll cover coming alongside in another article, but there's nothing worse than attempting to reef in a rising breeze when you could really do with another six arms. Here are some ways to make short- or single-handed sail handling much easier.

With a boltrope mainsail, it can be helpful to hoist the sail using the bight of the halyard so that you're close enough to the mast to sort out any snags or jams...



Hoisting the mainsail

Even hoisting the main can be daunting for a first-time single-hander. Bolt rope mainsails are particularly troublesome. You can make life a lot easier by converting a mainsail to sliders, so that they are held captive at the mast as the sail is being hoisted. Better still, sliders and a lazyjack system will really simplify things. But if a bolt rope sail is all you have, make sure you have a good pre-feeder, which will keep the luff lined up with the luff groove. Life is made somewhat easier if your halyards are at the mast, but even with them led aft you can lead one round a winch and take it forward with you, or use the bight of the halyard as it heads aft to hoist the sail, taking up the slack later.

...and you can pull the slack through the clutch once the bulk of the sail is hoisted

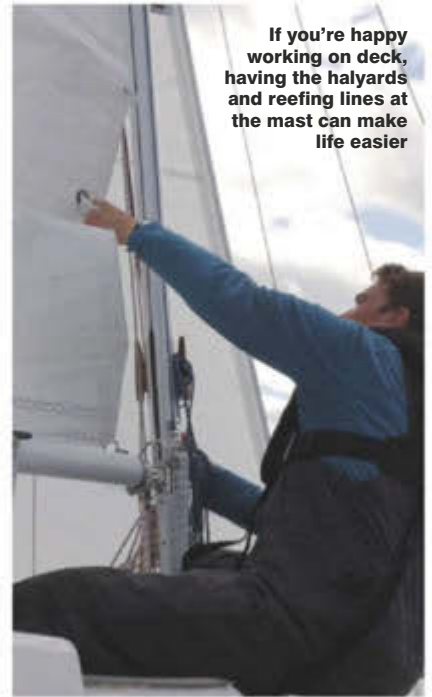


With your reefing lines led aft you can have full control of the tension from the cockpit

INSET We've also added a downhaul to the luff cringle, which is led to a footblock and aft to a cleat



If you're happy working on deck, having the halyards and reefing lines at the mast can make life easier



Mainsail reefing

Most reefing systems are designed for full crews, but there are things you can do to make reefing the main single-handed much easier. We've used a slab reefing main as found on many boats, but in-mast furling and single-line reefing mains will obviously make life easier, although these systems do have their drawbacks.

Lead lines aft...

With the addition of a couple of foot blocks, you can lead your reefing lines aft to a clutch in the cockpit. This has the major advantage that you can tension the reefing pennants from the safety of the cockpit, and use a winch to tension the lines if necessary. You can also add downhauls to the luff cringles and lead these aft too (inset, above right). This means you'll have reefing lines, luff downhauls and main halyard all in the same place – the cockpit – and can reef easily from there. In the picture above they are led through the gap in the boom casting aft of the gooseneck, down to the mast foot and back to the cockpit.

...Or you could move everything forward...

Another option, which depends upon your boat's set-up and your mobility, is to move everything forward to the mast. This might seem a little odd, but if you're happy working on deck, it makes sense. With halyards at the mast,

you have everything to hand and are in the right place to hook on cringles, pull down stuck slides and sort out any problems.

...Or, if they are split...

If the halyard is aft and the reefing lines are forward, you can take the halyard round a winch and take the end forward with you, so you can ease it down with one hand and pull the sail down with another, secure the cringle, then make off the halyard.



Even with lines lead aft, you can take the tail of the main halyard around a winch and forward with you

Reefing horn securing ideas

Reefing horns work well, but have an irritating habit of throwing off the cringles at the worst possible moment. That's why a way of securing the cringle onto the horn is useful.

Here are some ideas – send us yours if you have a way that

works for you! One trick is to use a rubber doorstep, pushed on to the horn, to secure the cringle. These cost £2.48 for two from B&Q, and they work really well.

■ Another option is to add a snap shackle to the horn, either

by lashing it on or getting one welded on, to provide a positive method of attachment that won't shake loose.

■ Another simple option is to use a sail tie or length of shock cord to secure the cringle.



A doorstep 'bung' on the reefing horn holds the cringle well



Snap hooks make a useful and secure alternative to reefing horns



If nothing else, a sail tie can be used to secure the cringle



The headsail

The best solution for a short- or single-handed sailor is a roller-furling headsail, which can be deployed or put away at a moment's notice: a roller headsail means that you can easily reef and unreef to suit the wind. If single-handed, it can be worth putting a smaller jib on the furler if you're expecting heavy weather. This not only sets better than a large headsail that's reefed, but also means that if the furler fails and releases the whole sail, you have much less flogging sailcloth to deal with.

Non-roller headsails

Despite the proliferation of roller-furlers, many boats – especially cruiser racers – still have hanked-on jibs or headfoils. You can still use these single-handed, but they need a bit more planning. It's best to be conservative with the choice of headsail – you can always let some more mainsail out to compensate.

Once again, if you're happy working on deck, halyards at the mast can make things easier – you're nearer the sails and can

more easily sort out problems. But even if your halyards are led aft, there are things you can do.

Hoisting

Hoisting can be tricky, but:

- Make sure you have a good pre-feeder.
- Carefully flake the sail on deck so that it will hoist as easily as possible.

One useful trick is to have shock cord on the deck to secure the sail, but with a 'trip line' rigged to a snap shackle for a quick-release system. Here,



For boats without roller headsails, a snap shackle (circled) and shock cord works well. **INSET** A halyard cleat on the mast also helps

Poling out the jib – the safe way

If it's too windy for a spinnaker, or you're not happy flying one, then poling out the jib is the next best thing. Here's a way to set up the pole safely. The pole is clipped on to the windward spinnaker sheet, which is then taken to the jib's clew. Attach the pole to the mast, then lift it over the windward rail. You can now go back to the cockpit and do everything else from there – easing off the leeward jib sheet and pulling on the new windward sheet (we've used a spinnaker guy here). You can also adjust the up- and downhaul to make it fly right. The important part is that you can do it all from the cockpit, out of harm's way.

- For a diagram of how to set the pole like this, see page 110.

Here, the pole is set up ready for you to make your way back to the cockpit and goosewing the jib safely



we've tied a snap shackle to the pulpit rail, with a light line led aft through the stanchion bases. A pull on the line releases the shock cord and lets the jib free.

One thing that can help if you're happy working at the mast is to fit some halyard exits on the mast, along with a cam cleat. These mean that you can hoist the sail from the

mast, cleat it off and then take up the slack in the halyard from back in the cockpit.

Dropping the headsail

With the autopilot on, a good way to drop a hanked-on or headfoil jib is to take the halyard forward with you and ease as you collect the sail. This makes it controlled and very easy to retrieve the sail.



Taking the tail of the halyard forward with you makes for a controlled headsail drop – but make sure you flake it first to avoid tangles

Short-handed spinnaker drops

You don't see many single-handers flying spinnakers – hardly surprising, as the thought of what happens when they go wrong is enough to bring anyone out in a cold sweat. But used in moderate conditions, and knowing how to drop it safely and in a controlled manner, a spinnaker can still be flown single-handed. Here's how to drop it safely.

Bear away until you're just above dead downwind, so that the main blankets the spinnaker.

Pull the sheet in hard. If you have twinning lines on the spinnaker, pull the leeward one on hard too, so that the clew of the sail is held firmly on the gunwale.

Lower the pole and ease it forward until you can reach the snap shackle from the bow.

Pull the pin on the guy's snap shackle to release the tack.

The spinnaker should now float happily behind the mainsail, and you can take your time to make your way back aft and collect the sail, lowering the halyard slowly.



With the pole eased so you can reach it and the sheet on hard...



...you can pull the pin on the snap shackle



This lets you collect the spinnaker easily and without too much drama

Autopilots and tiller tamers

A good autopilot makes single-handed sailing much easier: add a remote and you'll have control from anywhere on board. But if the budget doesn't stretch that far you could consider a tiller lock (see next month's PBO for a test of those on the market, plus some DIY alternatives). These let you leave the helm for short periods of time – and on long-keelers and well-balanced boats, they'll give you some freedom to leave the helm.



The spinnaker is held tight along its leech and sits happily in the lee of the mainsail



Heaving to and lashing the helm allows you to reef the mainsail in your own time

Heaving to

With a good autopilot, you can just reef while maintaining a course. But a more seamanlike approach is to heave to. This will slow the boat to a slight drift and give

you all the time in the world to reef the mainsail. Back the jib and lash the helm, and once the boat has settled down you can reef the main at your leisure.

Great ideas and tips from PBO readers

Email your projects and tips to pbo@ipcmedia.com or write to us at the address at the top of page 5. We pay at least £30 for each one published

Keep your cool

Peter Lyle blows hot and cold to make his fridge more efficient

At times, I suspect that our Jeanneau 36i was designed around its fridge. It (the fridge) is huge. Unfortunately, it also uses an awful lot of electricity: despite a domestic battery bank of four 80Ah batteries, we need to top them up every couple of days if the fridge is on. And all of this is while sailing in Scotland, where's it's rarely tropical.



COST
£10



A large computer fan was screwed directly onto the frame around the heat exchanger. **INSET** The fan itself cost a mere £10



Warm air was sucked from the saloon

Realising that this was a bit silly, I had a look at how the fridge cooling was set up, and found that the fan on the heat exchanger was arranged so that warm air was sucked from the saloon, and heated a little further by the heat exchanger's radiator before being blown under the fridge and into the nice cool bilges. I tried

swapping over the wires to the fan in an attempt to reverse the situation, but found that the type of fan fitted to the fridge was non-reversible.

The answer was to buy a large, cheap computer cooling fan and screw this with self-tappers directly onto the frame around the heat exchanger. I disconnected

the electricity supply from the original fan and used this to power the new one. The new fan sucks cool air from the bilges through the heat exchanger and into the saloon. This seems a better way of doing things! Our electricity consumption is now much reduced, and the fridge is nice and cold.

A different aerial view

Sam Longley opts to install his Echomax reflector and AIS transponder on the pushpit

After deciding to undertake another single-handed round-UK trip – Roger Oliver has a lot to answer for! – I decided to fit an Echomax reflector plus an AIS transponder as my boat was nearly ploughed into on a previous circumnavigation.

I didn't want to incur the cost of lowering the mast, nor did I want to interfere with my existing VHF setup by inserting an aerial splitter. Placing both items on the pushpit would be an easier option, and the transponder antenna would



The masts for Sam Longley's Echomax reflector and AIS transponder rise about 5ft above deck or nearly 8ft above sea level. **INSET** The curve offsets the upright just enough to lead into the deck gland

double as a spare in the event of a dismasting.

Stainless steel is expensive, but luckily I had a broken extending aluminium sailboard boom in my garage. Part of it was quite straight, and the aluminum was of good quality. I cut it just after

the end of the curve for maximum length, and the curve offsets the upright just enough to lead into the deck gland. The parts fit together with stainless steel U-bolts. The extending pieces can be used to raise the aerial or reflector another 2ft, but as my AIS comfortably

picks up coasters at over 10 miles, and my wife can see me on Vessel Finder almost all the way across the Irish Sea, I deem it sufficient. The masts come out at 5ft above deck or nearly 8ft above sea level, and can be extended to 10ft.





Clip-on cockpit table

COST
£5

Paul Farr builds a table that needs no additional fixings

Large enough for four people, this cockpit table stores flat when not in use and is attached to the cockpit without the need to drill any holes or for additional fixings. The tabletop is made from a 900mm x 600mm laminated kitchen unit door and fitted with oak fiddles on four sides – the fiddles were probably the most expensive item on the table!

The folding bracket comprises alloy angle, tube, stainless screwed rod and stainless dome-headed hexagonal nuts. The whole mechanism is screwed to the underside of the table. Also on the underside are two UPVC angles



The table legs locate onto two lugs and are held by swing-down hooks

which locate centrally over the tiller. A rubber door stopper fixed underneath the table sits on top of the tiller so as not to damage the tiller's varnish. The table legs are located on the two bobbin-type lugs in the transom gate (I'm not sure of the correct name for these). When attached, two simple locking mechanisms are swung over the bobbins, effectively locking the table into position and supported by the tiller.

I've used this table for around four years on *Supernova*, my Jeanneau Sun Odyssey 29.2. It is bigger and better than a lot of commercial cockpit tables, and it folds flat for easy stowage. I made it with simple hand tools – no specialist tools or equipment were required. With all the bits and pieces the cost was approximately £50, but you could do it for less if you could scrounge the parts for free.



The cockpit table stores flat for easy stowage when not in use

Displaying charts: it's a hanging matter

Peter Talbot devises an adaptable holder for displaying charts and maps at home

COST
£5



Bulldog clips are hung from the hooks, and the charts clipped in

Looking for a way to display (or store) your favourite charts and maps at home while planning your next trip? This adaptable wall holder can be made cheaply to display charts/maps of varying sizes, on a temporary or permanent basis, without damaging either your chart or wall (apart from screwing in a picture hook, unless you use an existing one).

The chart holder is made from a 2cm x 2.5cm x 110cm pine offcut, into which I've screwed six cup hooks equidistant along its length. Foldback bulldog clips are then hung from the hooks, and the charts clipped in. I drilled

two holes through the offcut, a quarter of the way in from each end, to thread string through and hang it from a picture hook high on my wall. One hook is sufficient, but using two helps keep it level when you're swapping charts, and helps 'shorten' the string so you can place it nearer the ceiling if you want to display larger maps.

Painting it would help it blend better with your décor, but you can just leave it unpainted. The total cost was £5 for the hooks/clips: I already had everything else. The component parts are transferable if you ever fancy upgrading to a larger version.

Readers' Tip

WASHBOARD STORAGE

The standard washboard on my Jeanneau 29.2 is a clear polycarbonate which is easily scratched and damaged if left lying around when not in use. This simple arrangement neatly stores the washboard in the locker, taking up minimal space. A 600mm-long L-shaped piece of varnished wood is screwed to a locker bulkhead, thereby creating a slot into which the bottom of the washboard can be located. The top of the washboard is pressed against the bulkhead onto a piece of foam which has been glued into position. A simple latch is then swung down to



secure the washboard. I made the latch from a uPVC offcut and glued it to the bulkhead – the uPVC is fairly soft and unlikely to scratch the polycarbonate. The latch swivels around a drilled and tapped 6mm stainless dome-headed screw. The washboard is easily put into position and removed using one hand.

Paul Farr

It's never easy to make a near full-width coachroof attractive from every angle, but the new Shrimper doesn't disappoint



Meet the Shrimper's big sister

TESTED

How do you follow one of the biggest success stories in British boatbuilding? David Harding went to the home of the Cornish Shrimper to find out

Whether or not you have ever had reason to take an interest in small trailable gaffers, it would be hard to ignore the Cornish Shrimper.

Over 1,100 of these distinctive 19-footers have been launched since the late 1970s and have spread so widely as to be instantly recognisable by almost everyone who sails in the UK. The Shrimper isn't just a boat: she's an institution.

One reason for this popularity is her versatility. As a Poole-based owner put it after moving to a Shrimper from a racing keelboat,

'I chose a Shrimper because I could cruise it, camp in it, race it, sail it single-handed, take five people for a sail, go to Wareham for lunch, explore the shallows in Poole Harbour and trail it if I want to go anywhere else.'

For him, as for many others, the Shrimper does pretty well everything and everything pretty well. The people facing the challenge were her builders: what would their Shrimper owners move up to should they ever want to move up? And what would potential Shrimper owners buy if 19ft was just a bit too small for them?

Next in the range came the

Crabber 22 – deeper in the draught, nearly a ton heavier and more than twice the price. If you had the budget and, as a Shrimper owner, wanted to go from a trailable weekender to a pretty coastal cruiser with a slim hull, a low coachroof and beautifully finished but not particularly spacious accommodation, the Crabber 22 was a good choice. If, on the other hand, you wanted something closer to what you had already only with more space and pace and without spending nigh on £70,000 – well, that's what got Cornish Crabbers thinking.

The result is the Shrimper 21. Yes, there's now another Cornish Shrimper and it has the potential to confuse everyone. Even the fine folk at Cornish Crabbers can still sometimes be heard referring to the 19 as 'the Shrimper', so it's going to take a while to get used to the idea of Shrimpers in the plural. This is no small deal: a new boat that has the temerity to adopt the name of a sister who has become

a legend in her own lifetime. And there's more, because the Crabber 17 has been renamed the Shrimper 17. Can you imagine the exchanges between these three boats in the corner of the fit-out shop after everyone has gone home for the evening? If boats were capable of such things, it would be pistols at dawn.

Crabbers' idea is that the smaller, trailable models in the range are now all called Shrimpers (unless they have Bermudan rigs, in which case both they and the Crabbers become Adventures). The larger models, from the 22 upwards, are called Crabbers – unless they're Adventures. It's all perfectly logical, even though one suspects that there will be always be 'the Shrimper'. Nothing is going to change that in a hurry.

Coming of age

So, the plan was to create a bigger Shrimper. That meant incorporating features that have made the 19 so successful, making improvements where improvements could be made, and increasing size while keeping towing, rigging and launching as straightforward as possible.

Roger Dongray – designer of the



RIGHT Hardware is efficient and unashamedly modern throughout



LEFT A tabernacle with a high pivot point allows the boom to stay on the gooseneck with the mast lowered

Broad teak cappings make for a comfortable perch on the coamings should you choose to sit up
INSET The 'track and strap' system for the mainsail



original Shrimper and many of the other boats in the range – drew the lines and developed the 21 in conjunction with David Thomas Yachts. Although David Thomas sadly died last year, the company that bears his name continues. With David's son Peter now in charge of Cornish Crabbers and Peter's nephew, David Thomas Jnr, putting his engineering and design skills to good use in his role as general manager, Crabbers have plenty of in-house expertise at their disposal.

Importantly – and not surprisingly, given Dongray's flair for drawing pretty boats – the new Shrimper looks the business. There's no mistaking her pedigree. Yet there are differences between her and her little sister. Some are obvious from a quick glance at the profile drawing: the vertical stem and more upright stern for a more modern appearance and longer waterline, the extended coachroof for greater accommodation, a more pronounced sheerline, a keel that's cut away at its aft end to give greater manoeuvrability, a higher aspect-ratio centreplate for better performance and a balanced rudder for a lighter helm.

Other differences are confirmed

or revealed once you see her in the flesh. For a start, the profile gives few clues that this is a pretty high-volume hull. Providing a generous amount of space below decks was a priority, though the waterline is relatively narrow and the volume is created by flared topsides coupled with a coachroof that's both long and wide.

Despite her greater size, the 21 is only around 700lb (317kg) heavier than the 19, so owners who upgrade their boats will often be spared the need to upgrade their tow-car. Once you've reached the slipway, her builders reckon the 21 is appreciably quicker to rig: with practice she should need around 30 minutes rather than the hour or so for which the 19 will typically keep her owners occupied.

A whole host of factors contributes to the speedier launching. For example, there's no need to attach and detach the boom because a higher tabernacle allows it to remain

on the gooseneck with the mast lowered. Bending on the mainsail is easier, too: it slides into a track on the yard rather than being laced in the conventional manner. Similarly modern thinking has been applied to the luff between the gooseneck and the throat, where we find webbing straps with hook-and-loop fastening around the mast. Crabbers have dubbed this the 'track-and-strap' approach and, while there will doubtless be those who disapprove, it should save a lot of fiddling.

Add a hinge-up bowsprit for single-handed raising and lowering of the mast, and a flexible carbon headfoil from Aeroluff instead of the stiffer, heavier and easily-damaged conventional aluminium extrusion, and it's easy to see why big sis gets to splash first.

Expanding the options

Where you really feel the extra size of the 21 is in the cockpit. Self-draining and able to swallow

five adults with reasonable comfort, it has high coamings topped by broad teak cappings that provide a comfortable perch.

Beneath the sole is a 9hp Yanmar diesel if, as have most owners to date, you plump for the inboard option. Alternatively, an outboard (4-6hp would be ample) can be hinged clear of the water in a central well that occupies the space otherwise used for the Yanmar's diesel tank in the stern.

Engine choice comes down to preference and budget. It's significant that Crabbers have managed to keep the starting price for the outboard version the same as for an inboard-powered 19. That's good going given the difference in size and is the result of her being designed and engineered for production efficiency in ways that the 19 never was. For example, the ballast (iron encapsulated in resin) is poured into the hull after the interior moulding has been fitted, so it can



Tech spec

Cornish Shrimper 21

Price: From £33,600 (outboard version)/£42,250 (inboard)

Length including bowsprit: 7.57m (24ft 10in)

LOA: 6.40m (21ft 0in)

LWL: 6.09m (20ft 0in)

Beam: 2.40m (7ft 10in)

Draught – centreplate down: 1.35m (4ft 5in)

– centreplate up: 0.6m (1ft 10in)

Displacement: 1,400kg (3,086lb)

Ballast: 425kg (937lb)

Sail area: 23.6 sq m (254sq ft)

Displacement/length ratio: 172

Sail area/displacement ratio: 19.15

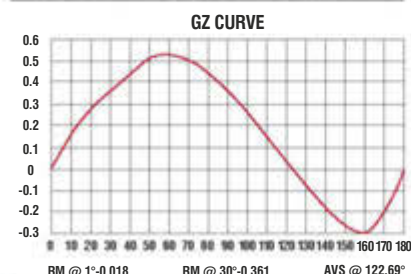
RCD category: C

Engine: 4-8hp outboard or Yanmar 9hp diesel inboard

Headroom: 1.32m (4ft 4in)

Designer: Roger Dongray/David Thomas Yachts

Builder: Cornish Crabbers, www.cornishcrabbers.co.uk



be distributed according to whether an inboard or outboard version is chosen. The engine is fitted afterwards too, the cockpit moulding remaining the same either way (unlike on the 19, which has to be built to accommodate one engine or the other). This flexibility simplifies production and planning enormously.

There's no headliner in the cabin. Who needs one? It makes sense to save both the cost and, importantly in a trailable boat, the weight. With mass-volume builders, production expediencies sometimes result in restricted access to systems and perhaps to structural compromises. That doesn't appear to be the case here: it's about allowing production to flow in a way that minimises waste and keeps delivery times as short as possible once an owner has chosen his or her specification, be it for an inboard-powered Shrimper 21 or an Adventure version with an outboard.

What matters most is that the 21 looks and feels like a bigger version of the 19. She has varnished spars and (as standard) tan sails, now made rather nicely by Freeman Sails in a loft just across the estuary in Padstow. Exterior trim is teak. Hardware is principally from Seldén, with the addition of a pair of Barton winches, a Houdini forehatch and clutches from Spinlock.

It's all simple and it works, as

I found on a trip to Rock to sail Shrimper 21 No2. Despite not being officially No1, she was the first to hit the water. It often works this way in boatbuilding.

Our sail had to be fitted between the boat's initial trials and her departure to her new home in Plymouth. It also had to coincide with middle-of-the-day high tides (you could walk or wade most of the way to Padstow at low water) and a suitable weather window. In the end it all came together and the Camel Estuary is a lovely place to sail, even if flat water and extremely shifty winds do impose a few restrictions when it comes to putting a boat through her paces.

A modern gaffer

Many new-generation gaffers aim to blend traditional charm with modern convenience. In this they broadly succeed, though I have often thought they would have wider appeal if only they were a little lighter and more nimble to sail. While long keels and unbalanced rudders are what you expect on traditional working craft, a lighter helm and greater manoeuvrability would surely make modern classics more attractive to owners who accept that what they really want is a modern boat dressed in a traditional costume. Who would buy a retro-styled modern car if it drove like the original?

If you're after a shoal-draught

gaffer like this you have to live with some compromises in performance – first with the gaff rig (see our comparison between the Shrimper and Adventure 19 in PBO August 2013) and then with the combination of a long shallow keel and flat steel centreplate. That's the nature of the beast. At the same time, there's no reason why your flat steel centreplate shouldn't be deeper in the draught and shorter in the chord, as on the 21. Neither is there any reason why the keel shouldn't be a little shorter as well, though it makes sense to have a keel to protect the prop and stern gear on a boat that's trailed, sailed in shallow water and often kept on a drying mooring.

And then there's the rudder. Sailing a gaffer shouldn't mean having your shoulders ripped out of their sockets when the wind comes abaft the beam. That's definitely not part of the charm. Gaffers are prone to developing weather helm off the wind because of the length of the boom, but throw an unbalanced rudder into the equation and sailing can become hard work.

You're less likely to become friendly with your physiotherapist if you own a Shrimper 21. Instead of sitting inboard, bracing your feet on the opposite side of the cockpit and using all your strength to wrestle with the tiller, you can enjoy sitting on the coaming – if you so choose – and steering with the



Cooker with a cover: the neat two-burner gas hob

extension while creaming along on a broad reach at 6.5 knots. Hurrah for a bit of balance.

The new Shrimper doesn't sail like a sporty fin-keeler and still needs a firm shove on the helm to bring her through the wind. Spinning on a sixpence is not in the repertoire of boats like this and is not intended to be. On the other hand she's surprisingly light and responsive, combining satisfying performance with a high degree of tolerance and forgiveness.

We started out in a gentle breeze that picked up to 15-17 knots by the end. It was enough to let us push the boat reasonably hard and might have encouraged some owners to think about reefing. Upwind we clocked between 5 and 5.5 knots most of the time. Even allowing for a tacking angle that's probably no less than 90° – it was impossible to judge in the shifty conditions – that's not bad going. With the sheets eased we soon stopped commenting when 6.5 knots showed on the dial, though the appearance of 7 knots did elicit a reaction, as did the minimal wash. Mr Dongray appears to have given the new Shrimper a nicely slippery hull combined with plenty of stability.

Between them, he and Crabbers



With four full-length berths, a separate forecabin, comfortable sitting headroom and a galley and toilet, the new Shrimper offers plenty of space for a trailable 21-footer. Extra stowage units can be fitted in the saloon

have also bestowed her with remarkably good manners. Spun through 360° with the sheets pinned in so she came out of the circle virtually dead in the water, she regained speed quickly and with little tendency to stall. On the wind she could be pinched mercilessly without losing steerageway. If we bore away in the strongest gusts we could find without easing the sheets, only rarely did the rudder lose grip.

All told, the big Shrimper proved

to be an engaging and rewarding boat to sail; one that's capable of satisfying those who enjoy sailing for sailing's sake, while doing nothing to frighten owners who want something roomy, practical, easy to handle and slightly trad in which to enjoy simply bobbing about on the water.

It's not only in sailing mode that her manners are in evidence. Under power we could describe a figure-of-eight in astern with a brisk wind on the bow. The Yanmar

The forecabin berth is long and wide enough for two large adults



Water neat idea: two small water bottles with Hozelock connectors

should provide ample power in most conditions, even if some owners might be tempted to replace the two-bladed fixed prop with a folder or, at the very least, to align the blades behind the keel.

Stacks of stowage

In the cockpit is a full-depth locker each side. The battery lives in the starboard one and a gas locker is built into its after end. At the forward end of the port locker are two bottles for the fresh water,

fitted with Hozelock connectors so the pipe can easily be switched from one to the other. The idea, first used on the Hunter 20 when Cornish Crabbers owned Hunter Boats, is that it's easier to carry two smaller bottles aboard than one big one.

A hinged hatch in the cockpit sole gives access to the engine. The whole sole can be unscrewed and lifted out if necessary. In the bow is a deep anchor well, a Samson post on its after face providing a pivot point for the bowsprit (which, incidentally, is shared with the Shrimper 19).

Accommodation

The pictures tell the story here. In summary it's neat and functional, finished in white-painted tongue-and-groove-effect timber and varnished trim. Up to bunk level the accommodation is formed by the interior moulding.

Both berths in the saloon are 1.9m (6ft 3in) long. Between them and the main bulkhead is the galley: sink to port and cooker, complete with hinge-down cover to leave a near-flush surface, to starboard. If you want a table in the saloon, lift out the infill board from the aft end of the forecabin berth and fix it up on its bracket – or use it to bridge the space between the two sides of the galley and you have a seat.

Access to the forecabin, with a berth that's over 2m (6ft 6in) long and almost as wide at the aft end, is easy because there's no central compression post. A bit of design work has seen to that and also kept the centreplate's case shorter than you would expect.

With 1.32m (4ft 4in) of headroom and a sea toilet with holding tank – or a chemical loo if you prefer – under the fore berth, the new Shrimper provides pretty civilised accommodation for a 6.4m (21ft) trailable gaffer.

Other boats to look at



BayCruiser 20

PRICE: £35,940

Yawl-rigged, much lighter than the Shrimper and with water-ballast to minimise the trailing weight, she's different in many ways but still likely to be compared because of her modern-classic appearance and similar size.

www.swallowboats.com



Kite

PRICE: £31,950

Also lighter than the Shrimper and sportier in nature, this new design by Andrew Wolstenholme has a large cockpit, a relatively small cabin and a single-chined hull. Auxiliary propulsion is from an outboard only. Full production is just starting.

www.demonyachts.co.uk



Méaban

PRICE: £POA

Built in wood-epoxy near St Malo, this pretty 22-footer is designed for easy trailing, offered with gaff or Bermudan rigs and available for home completion too. Four berths, space for a cooker and loo; outboard engine.

www.gomarine.co.uk

PBO verdict

Simple efficiency is what the new Shrimper is all about, but simple efficiency doesn't happen on its own. Everything about the boat has been carefully calculated and, from the order book to date, it looks as though the calculations have been to good effect. If I were a Shrimper 19, I think I would perhaps be just a little envious of my new big sister.

An upwardly mobile bracket

Alex and Angeline Crook design a swing-up outboard motor bracket that doesn't cost a packet for their Cornish Shrimper

As the owner of an outboard-powered Cornish Shrimper, I feel sure that I am not the first to ponder the idea of fitting a swing-up outboard motor bracket to this type of boat. The advantages are obvious: it would enable you to keep the prop out of the water when the boat was not in use, and alleviate the chore of removing and returning a heavy outboard motor to and from the cockpit locker each time you went sailing.

We tried leaving the outboard on our Shrimper *Pixie* for a whole season but found a build-up of tiny crustaceans inside the water intake which, if not removed, could have restricted the flow of cooling water and hence could have caused engine overheating problems.

Another option would have been to simply change the engine for a much lighter one. We do have a 2hp Yamaha outboard which will push our Shrimper along quite happily in calm conditions: however, 2hp would not be sufficient to propel her through the Poole Harbour entrance against an ebb spring tide, so another solution had to be found.

After making a few rough sketches on paper, a design emerged which looked as though it might work. Our first prototype bracket was made from aluminium angle and plywood. There is not much room inside the outboard well of a Mk1 Shrimper, so this caused a bit of head scratching. The bracket had to lift up high enough and swing forward sufficiently that the prop cleared the cutout aperture to the water. Once the prop was clear, it would be a simple matter of inserting a plywood plug into the cutout aperture and resting the skeg of



The engine in parked-up position: the skeg is resting on a plywood plug. **LEFT** The new swing-up bracket

the outboard motor on to the plug. Importantly, the weight and thrust of the outboard motor would still be transmitted through the original angle iron steel brackets, which would remain in their original position.

We made a second prototype from mild steel, painted it up and fitted it to our Shrimper. It worked very well, and we didn't once have to remove our outboard during the sailing season. We have made another bracket now, from

marine-grade 316 stainless steel, which was welded together for us by Hood Engineering of Broadmayne. This final bracket includes a couple of modifications over the original design, to make it easier to use.



The original outboard bracket in the Shrimper's rather snug well



The new swing-up bracket installed. A wing nut retains the bottom part...



...which when released allows the bracket to swing up and fold flat



With the engine in elevated position, the prop can clear the cutout aperture. **INSET** The new bracket. The bottom rail is fixed to the original brackets

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Repairing a Volvo heat exchanger

Steve Francis mends a disastrously bodged Volvo TMD60A heat exchanger at less than half the price of a new outer casing

During my time running a marine engineering company in Falmouth I was contacted by a boat owner who had just bought an Ocean 42 and wanted my opinion on it. I had been carrying out pre-purchase surveys for some years, so I was quite happy to take a look. The boat had suffered from poor DIY repairs and maintenance plus overlooked leaks in the cooling system: one bad leak was on the raw water side of the header tank on the starboard Volvo TMD60A. It was mid-season, so I made a temporary repair using plastic metal and left it until the season's end.

Somehow the owner and I never got round to a proper fix, and I then moved on to working on superyachts so we lost contact. However, I was reunited with the boat and owner this year as I am now retired and just do odd jobs to relieve boredom. It seemed my repair had lasted for several years, and when it finally gave in the owner, unable to contact me, had called in a glassfibre expert to bodge it properly. The end of the heat exchanger that was leaking was underneath a fixed bench seat so it was pretty well inaccessible.

Assessing the damage

I had removed the heat exchanger to effect my temporary repair several years earlier, but the glassfibre man had done it in situ with disastrous results, allowing raw water into the engine's fresh water circuit. One of the big problems was that he had not gone back to bare metal to obtain a key for the epoxy, so it was not adhering. There was a constant leak into the bilges, which had corroded the outer casing to a point where there was nothing left to locate the heat exchanger matrix and stop the two different coolants from mixing. Volvo uses a push-in type of connection rather than the conventional worm drive clip. The fresh water engine side was constantly being topped up by

The heat exchanger as removed from the boat, showing the bad epoxy repair that was leaking. The epoxy had been put on top of the paint instead of a key being made so it had not adhered



INSET The heat exchanger repair had been done in situ where the underside could not be viewed, so it was a mess

the seawater cooling as the seal was missing. Enquiries were made, and a new outer casing was found to be obtainable at a heart-stopping £1,800 and a new matrix at £1,400, plus of course a further 20% tax.

With nothing to lose, I suggested having a go at repairing what was left with a budget price of £600. The heat exchanger took some considerable time to remove as salt water had been spraying around everything for a couple of seasons, corroding every nut and bolt head. This made a difficult job much longer as every fixing had to be wrestled off.

With the heat exchanger removed, the extent of the bodge and damage was revealed. The epoxy had not bonded at all to the underneath so the casing end was virtually gone, and the

matrix tube ends had been badly knocked about.

The force of the raw water entering the engine had dislodged the thermostats so they were not working. The matrix was firmly stuck in place by a mixture of silt and salt and required a lot of soaking and pressure-washing to get it free and removed.

Having stripped out the assembly, I had the outer casing shot-blasted to remove what epoxy remained, and all corrosion, to get back to clean metal and see exactly what needed doing. Most of the end and some of the side had completely gone, and the matrix would require a new end plate with in and out spigots.

The first part to repair was the matrix end, which was done using some cupronickel plate and tube. Tubes were silver-soldered to the



The leaking raw (salt) water had severely corroded the water pump and its barely accessible fixing bolts, making the removal of the heat exchanger and pump a long and difficult process



Thermostats had become dislodged from their seats by the force of raw water entering the fresh water system

plates over pre-made holes and the assembly was soft-soldered onto the end of the matrix, having had the bad end cut off. Different solders were used because they have different melting points so there would not be so many parts to try locating and fixing at the same time. The matrix was then pressure-tested for leaks.

Outer casing end

This done, I was able to proceed to the outer casing end. I obtained some marine-grade aluminium angle profile and cut this to suit the casing that I had trimmed back to give square edges onto which I could fix. I overlapped the corrosion on the side to get to good casting onto which I could weld. I marked out and cut the holes through the plate for the matrix spigots to come through and then assembled the units together to make sure it would all fit.

After this, the end plate was tack-welded to the casing and the matrix removed as cast aluminium welding gets extremely hot, and I didn't want to melt the soft solder. The end plate was finally welded on and allowed to cool. The spigots from the matrix have to seal against the new end plate, and to achieve this I fitted thick section O-rings that compressed as the unit was bolted together.

The unit was subsequently reassembled and pressure-tested, then fitted back to the engine. I also had to fit new bearings to the belt tensioner pulley and the water pump, plus new vee belts as the rust on the pulley surfaces had worn them out. The total cost was less than half of the price of a new outer casing.



The whole assembly after epoxy removal and shot-blasting corrosion away to see if enough metal remained to enable a repair to be attempted



New cupronickel spigots were silver-soldered onto cupronickel plate, which was then soft-soldered onto the old heat exchanger matrix. Silver solder has a much higher melting point than soft solder so it enabled the spigots to remain fixed during soft-soldering



A piece of unequal angle marine-grade aluminium was cut and holes bored to accept pipes. Aluminium angle was cut to cover badly corroded parts and overlap onto good casing. The casing was also trimmed to give a straight edge as a reference point. Before welding, it was all put together to check the fit



With the welding finished, the components are ready for assembly



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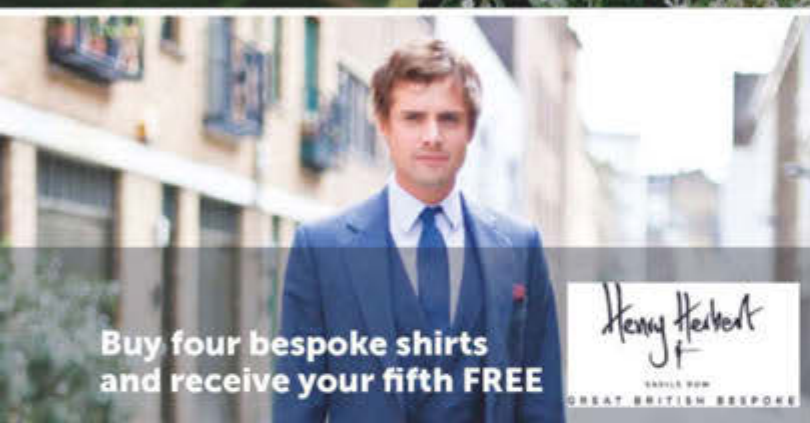


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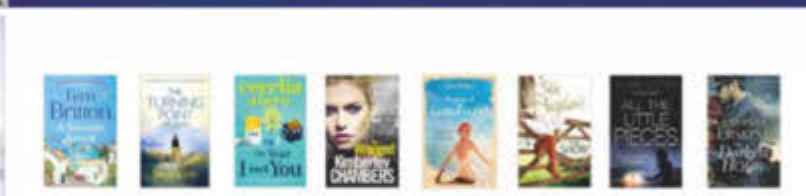
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Laura Hodgetts reports on the latest marine products

HELIX 5 compact HD widescreen fishfinder

The Humminbird HELIX 5 family of compact fishfinders features an HD widescreen colour display that is promised to capture the breadth of the underwater landscape. The units can be bracket- or flush-mounted with optional kits. Each model supports 200/83kHz transducers, plus an optional 50kHz XD variant for extreme deep-water use. The chart plotter and all GPS models include Humminbird UniMap base maps and are compatible with Humminbird LakeMaster charts including AutoChart and Navionics Gold/HotMaps. All models except the HELIX 5 chart plotter feature a water surface temperature gauge built into the transducer. Prices start at £249.99.

■ www.marathonleisure.com



LiveSavers lifejacket attachment

One of the biggest worries for sailing couples is how they would get their partner back on board if they were to fall in: which is where LiveSavers come in. A LiveSaver is a 3m x 3mm length of bright yellow Dyneema hand-spliced into a loop, with a triangle formed in one end. The other end is attached with a strap hitch knot to the lifting becket in a lifejacket. The LiveSaver is folded into the lifejacket and the cover closed. When the lifejacket deploys, the LiveSaver floats out onto the water. The rescuer returns to the MOB and stops the boat alongside, and by using the boathook, grabs the LiveSaver and secures it to a cleat on board. Now, with the MOB attached to the boat, the rescuer can rig their preferred MOB retrieval system.

The Dyneema is promised to be strong enough to lift a Mini car and four adults so it should be more than enough for one MOB, and it tucks into the cover of a lifejacket without taking up much space. The floating, bright yellow LiveSaver shows up well against the water by day and at night under torchlight. The cost is £19.99.

■ www.livesavers.co.uk



Meridian Zero inflatable Solar LED lantern

This inflatable, waterproof lantern by Meridian Zero comes with a solar-powered, rechargeable lithium battery. Made of PVC, it features 10 LED lights with brightness of up to 80 lumens, and weighs 130g. A button switch offers three settings: low, bright and flashing LEDs. The built-in 5V/120mAh battery provides six to 12 hours' light when fully charged by the solar panel. It has a diameter of 13cm and the height goes from 10cm inflated to 3cm collapsed. The lantern is promised to have a working lifetime of 30,000 hours.

■ www.marinesuperstore.com



Verdict

This sturdy, lightweight lantern is incredibly handy. It deflates to virtually nothing at all, is easy to inflate and boasts an attractive, multi-purpose design. With handles on each end, the lantern can be strung up or tied on – and it should be if used on a boat as there is a risk it could just blow away in a breeze. It is so lightweight it would surely float if lost overboard!

Waterproof and solar-powered, it worked well as a torch on two camping holidays and as an outdoor lantern, but could also be a useful bedside light for reading. The only improvement I would wish for is to have a quick 'off' switch (perhaps by pressing and holding the button) rather than having to flick through all three settings. The price is £11.95. Recommended.

Laura Hodgetts



Swimming Buddy

This visibility aid is designed to be suitable for any swimmer: human or canine. Invented by Armando Rositas after he nearly struck a child with his boat because the child was not visible enough in the water after falling from a jet-ski, the brightly coloured, reflective, floating visual aid clips easily to lifejacket straps or clothing. Once in the water it bobs and sways, making swimmers substantially easier to see in the water, and is designed to stay out of the way so as not to impede motion. It costs \$14.99 (£10).

■ www.swimmingbuddy.com

Sea Trekker Navigator jacket/lifejacket

Designed to be worn during summer months, the Sea Trekker Navigator is a gilet-style sleeveless jacket with a concealed hood that features a built-in, self-righting, 170 Newton lifejacket inflation system, designed to automatically inflate when immersed. Should the wearer go overboard, this gilet would become a potentially life-saving lifejacket in less than five seconds.

Made from an outer fabric of red over beige microfibre, it also has a rear black mesh panel which allows air to flow through the garment. Other features include front webbing straps (useful to hold a compass or clip on a VHF), retro-reflective tape over the shoulders, a lifting becket with stainless steel D-ring, a crotch strap with detachable clip, a SOLAS-approved automatic light, a gusset pocket with Aquapac mini phone case attached, a flare pocket, a knife/Maglite holder under a Velcro flap, a radio microphone loop at the top of an oral tube cover and two outside-zipped fleece-lined pockets. Priced at £249.95, and available in sizes from XS up to XXXL, the jacket can be ordered directly from the factory at Cowes on the Isle of Wight.

■ www.seasafe.co.uk



Standard Horizon HX870E handheld DSC VHF radio

This handheld DSC VHF transceiver with built-in GPS is an upgrade of Standard Horizon's HX851E. New features include the ability to plot up to 20 routes from a directory of 200 waypoints, a much larger screen and increased battery capacity, from 1,150mAh to 1,800mAh. It also offers a Group Monitoring function, allowing the positions of up to nine other HX870E users to be shown on the screen's compass-style display, plus a Man Overboard soft key icon enabling the user to immediately mark the position in an emergency.

The HX870E has a submersible waterproof rating of IPX8 (5ft for 30 minutes).

Other features include an automatic distress strobe, all the main marine transceiver channels plus VHF Ch70 on a separate receiver for DSC operation, a DSC test call facility and automatic DSC channel change selector. There is also a noise-cancelling function and a dedicated distress button. To allow the HX870E to connect with other onboard devices, the casing features a USB data port that can output NMEA sentences at a rate of 9,600 baud. The transceiver can run from a 240V AC mains converter or 12V DC adapter which can fully recharge the Li-ion battery in three hours, or from an interchangeable tray of 5 AAA alkaline batteries. It costs £229.95 and has a three-year warranty. ■ www.standardhorizon.co.uk



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Canvas bucket

The traditional yachtsman's canvas bucket has been an essential on many boats for decades. The benefit of canvas is that it doesn't scratch the hull or deck when fetching water – although plastic doesn't either! It's also easy to stow because the material collapses. In addition, you can leave the retrieval line attached to the handle and it stores easily in the bucket. Canvas buckets are reasonably watertight, particularly when 'seasoned'.

At the time of going to press, the cheapest canvas buckets we could

find online were available on the Jimmy Green Marine website, with a 10lt (2gal) capacity. Nowadays they are manufactured from man-made polycotton acrylic so they won't rot like traditional canvas. Lanyards are made using 8mm 3-strand hempline and are 2m long, including a soft loop handle spliced at one end and the other end spliced directly onto the handle.

Canvas buckets are traditionally used to carry water, but they could also be used as containers to hold tools, provisions or toiletries, as beach bags or even as ice

buckets for your wine and beer. Canvas buckets are also fairly simple to make, as detailed in PBO's step-by-step guide published in January 1995, available free on our website at www.pbo.co.uk/expert-advice or to buy from the PBO Copy Service by calling 01202 440832.

Canvas buckets are priced at £12 (or £16 with lanyard) on www.jimmygreen.co.uk



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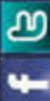
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A cruise circuit through France

In this second article, Richard Hare completes his guide to an inland waterway cruise circuit deep into rural France

Having made passage along six rivers and canals from St-Valery-sur-Somme on the coast (see last month's PBO), we're embarking on the final southern leg of our journey on the River Saône.

This guide is for the benefit of anyone considering such a journey, which can be made mast-down on keelboats with a draught of 1.2m or less. References to deep water can be taken to mean sufficient for a 1.2m draught, while mention of canal weed means the weed filter should be inspected routinely and cleaned at least once a day. When swimming, take the precaution of keeping water out of ears and mouth.

My observations on bank mooring and depth are based on a Golden Hind's far-from-ideal keel configuration – one long keel and two bilge plates.

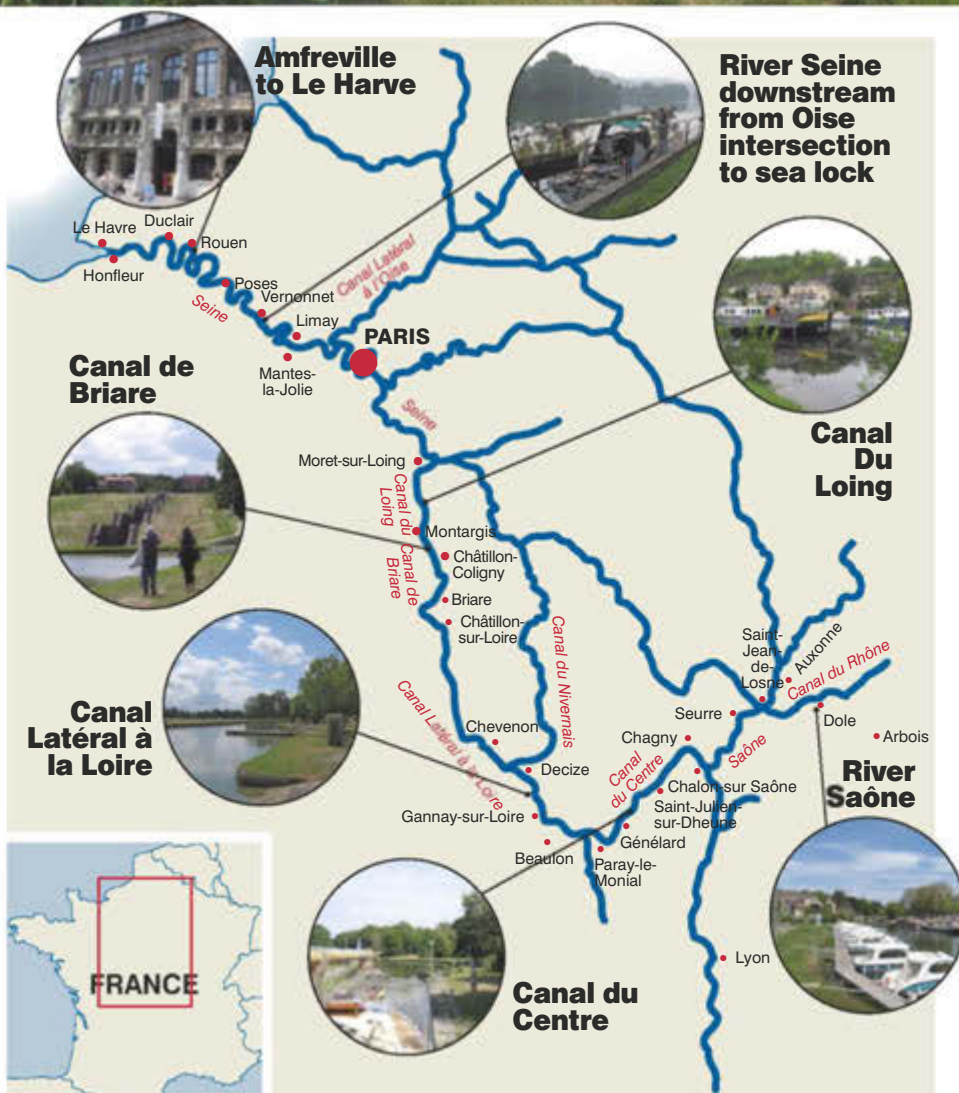
Trip top tip!

Whether a passage plan is to follow this cruise circuit or the shorter one that includes only the Somme, the Oise and the Seine, it is best to enter at the Somme. This way the uphill passage is predominantly in small leisure locks, leaving the big ones – and the leviathans – for the easier downhill legs.

ABOUT THE AUTHOR



Richard Hare grew up in Essex, where he learned to sail. He and his wife Janie live in Suffolk, where they fitted out their Golden Hind 31, Keppel, which they have since sailed in the Med and the Aegean.



River Saône

Scenery and settlements

This is a proper river, clean and sparkling in the summer sunshine. South of Saint-Jean-de-Losne to Chalon-sur-Saône, the river meanders through a pastoral landscape.

Saint-Jean's architecture reflects its proximity to the Jura (stone buildings and fancy tiled roofscapes). With good budget-conscious restaurants and all shopping needs covered it's great for over-wintering. South towards the Canal du Centre there are few towns, but Seurre was attractive and offered all amenities.

A half-day sortie upriver to Auxonne is well worth it for the well-run Port Royal Marina. For those who fancy a taste of the Alps, climb the eight locks up the Canal du Rhône au Rhin (about an hour north of Saint-Jean) to the pukka Jura town of Dole. Public transport can then access lovely hill towns like Arbois where there are good B&Bs, Louis Pasteur's house and the finest Comté cheese in the world.

Lock procedure

Between St Jean and the entrance to the Canal du Centre there are only two locks, one of 3.2m, the other of 3.7m. Call on VHF, wait for the green light, enter, sling warps around bollards, remain on board, and let the keeper do the rest. Locks are one péniche wide, and of moderate size.



ABOVE The church roof at Saint-Jean-de-Losne hints at its proximity to the Jura

LEFT True Jura – Dole, up the Canal du Rhône au Rhin



Ambience

With seemingly little commercial traffic, well-provisioned towns and a few holiday charter boats, our trip down a short section of the Saône was a very relaxed affair.

Moorings

Bankside mooring is forbidden, but there are towns with official leisure berthing. We saw several locals who anchored towards

riversides for lunch or fishing. A berth on Seurre pontoon cost €12, excluding electricity.

Water quality

The river water is weed-free and clean, a wonderful relief after the Bourgogne. The Rhône au Rhin is reported as being a bit weedy, so a suck-it-and-see approach might be best applied here for Dole. Charter boat business at Dole suggests that weed might only be a temporary problem.

Overall

From Saint-Jean to Châtillon, the two locks over 23km were easily done in two half days. Our sojourn on the Saône was too brief: my only regret is that we were unable to press on down to Lyon and its confluence with the Rhône.

quay and adjacent picnic area. There's also a restaurant.



With deep water, Gênelard was a lovely spot for a barbecue

Canal du Centre

Scenery and settlements

This had arguably the best scenery on the return journey, mostly undulating pastureland hosting herds of grazing Charolais cattle. Many of the settlements are attractive. Chagny is fairly nice, but has an off-putting dock area with the worst mosquito problem of our entire passage, so arrive with means of protection beforehand and enjoy a well-provided town beyond.

Gênelard has a deep water quay in a pretty village setting, excellent for a

RIGHT Paray-le-Monial is an attractive town which is also a pilgrimage centre

barbecue, but be sure to arrive stocked appropriately as it has no shops.

Paray-le-Monial is a gem of a town, boasting a river, plenty of shops, several restaurants and, opposite the deep town quay, a petrol station across the bridge. At its heart is a magnificent triple-towered Romanesque basilica.

Saint-Julien-sur-Dheune has a deep-water



Lock procedure

The huge canal entrance lock at the eastern end was almost a disaster for us due to the fierce outflow of water from the 10.8m-deep lock. This needn't have mattered were it not for the lock-keeper tying *Keppel's* two warps to a solitary post on a wooden quay with freeboard of about 6in.

As the water ripped out it caught *Keppel's* keel and she strained to the 'quay', her port quarter compressed onto the wood. Mercifully no damage resulted, and by the time our protests registered with the operative up in his mighty tower the huge slug of water was all but spent.

Upstream, the run-of-the mill automatic locks were not easy to climb. There are no staithes to speak of for crew to disembark and the tiled, sloping banks make disembarkation impossible for anything other than flat-bottom boats. The only option was for Janie to climb the ladders within the lock. This contravenes all guidance, but there was no alternative. Most ladders were neglected but just usable. One didn't have a handhold at the top beyond a clump of grass.

Auto sensors alerted the lock to our arrival



and we then followed the traffic lights. Although lock gate activation pull cords were situated within the locks these were usually positioned just inside the gates, far from ideal for a yacht with a mast protruding fore and aft. With Janie ashore, lockside, our solution in shallower locks was for me to cast both warps up to her with the stern warp returned for me to manage onboard. In deeper locks (5.2m-ish) I would pass the stern warp over a floating bollard as I passed it. There would be two of these but they were always spaced too far apart for *Keppel* and nowhere near the pull-cord, so with the stern warp sorted I'd hurl the for'ard warp up to Janie.

Many of the locks had crumbling sides, providing fender traps to the ascending boat. This called for strenuous leg exercise to keep guardrail failure at bay. In several cases the inrush of water was halfway along lockside walls, which caused *Keppel* to be pushed brusquely away from the walls. Fine, but it then meant vigorous



The Canal du Centre meanders through charming open rural countryside

warp action to prevent her from grinding up the opposite side. Flat-bottomed boats would fare better.

Locks are small to moderate size. Southern entry lock aside, nearly all are under 3m but a few are just over 5m.

Ambience

It's a pity that the former towpath was converted into a main road. It's hard to find a place to moor up for the night without traffic spoiling the tranquillity and, consequently, the rural landscape.

Mooring

The canal sides are usually tiled and at an angle of 45°, so overnight stops were often alongside dedicated deep-water quays, many of which are pleasant enough spots. Finding them wasn't a problem.

Water quality

The claimed depth of 1.8m was met, although water depth towards the banks usually diminished to next to nothing. There was no particular weed problem.

Overall

At 112km it's a moderate-length canal with 61 locks. We completed the distance in six comfortable days. The town Fragnes proved disappointing. The only shop was a bakery, and a neighbour had his bike stolen despite the place being lit up like a Christmas tree. With difficult locks, this is a commercial canal designed for much larger, straight-sided hulls with next to no draught.

Canal Latéral à la Loire

Scenery and settlements

Mostly attractive rolling landscape, pasture farming and a lot of Charolais cows. At its southern end is the large town of Digoin (€6.20 plus ablutions, water and power) and an Intermarché within walking distance. A nicer big town stop is to be found at Decize (€9 plus extras in marina) although there's free mooring out on the canal bank, which is also near an Intermarché. The marina had a restaurant with an excellent €15 menu.

Keelboats are best advised to moor in the marina or on the bank rather than further into the town on the river. Shingle banks in Loire are constantly in a state of flux.

Beaulon offered just enough water for free mooring in a pretty setting, as did Gannay-sur-Loire with its free hot showers. Between is the useful deep-water quay at Garnat/Engièvre. Shady Chevenon combined a peaceful setting and deep water, and Châtillon-sur-Loire is a good historic town with charm and provisioning.

Lock procedure

Locks are mostly of moderate size and all were manned by lock-keepers, although we were expected to organise our warps throughout. None were difficult, and sides were mostly fender-friendly. Outside, there is usually a staithe to disembark a crew member: the exception is the large deep lock that drops from the canal to the Loire at Decize. Going down would be fine, but we were loath to put our keelboat through what could easily be an anarchic ascent. Few keelboats use this lock as, at 1.2m, the Canal du Nivernais beyond is too shallow.



Gannay-sur-Loire was brilliant – good depth and free water, electricity and hot showers!

Most locks had good ladders within and acceptable handholds at the top. Some were set into the ground and nerve-wracking as a result. The keeper manually operates all four independent gates, so progress can be slow. Most éclusiers welcome sailors lending assistance. The locks are small to moderate size: nearly all are under 3m but one was about 9m, albeit in two steps.

Ambience

Many towns were devoid of shops, bars and restaurants. That said, with little traffic and sufficient places to moor in acceptable depth – some with free electricity and water, and enough villages with basic provisioning – this is a peaceful canal with much to offer so long as provisioning is maintained.

Mooring

Halts are spaced regularly enough and nearly always afforded sufficient



Beaulon was a good stop with just enough depth and facilities

depth, but some informal mooring spots (random bollards/mown grass) could be just as good. With locks closing between 1200-1300, the pressure can be on to find a place to tie up, but some locks were left open, which solved the problem.

Water quality

There was no weed of any consequence, and depth was pretty much a constant 2m. As in the Canal du Centre, tiled bank edges at 45° excluded us from some pretty spots.

Overall

At 196km it's a fairly long canal with a mere 37 locks. We completed the distance in 10 comfortable days.



The Loing end of the Briare aqueduct

Canal de Briare

Scenery and settlements

Much of the canal runs through deeply wooded banks and is rather dull. Quite narrow, it can feel oppressive in gloomy weather. The famous Briare aqueduct compensates, though.

Rogny is well worth a stop to see the 17th century lock staircase constructed during the reign of Henry IV. We had an excellent four-course dinner (€18) with a huge buffet starter at the more local-looking of the two restaurants close to lock 18. There's a small supermarket too.

Châtillon-Coligny is an attractive historic town worth visiting, with reasonable shops and a mini-market. Montargis is a fine town with a network of shallow canals. We had an excellent €11 lunch at the unprepossessing bistro Le Grignotiere.

RIGHT The locks were all manned and small



Lock procedure

All locks were manned but, again, progress through them can be slow as all four gates are manually operated. Keepers welcomed help when it was safe and possible to do so. Although the ladders were reasonably well maintained, many lock sides were badly pitted, some with horrendous fender traps for the uphill passage-maker. Vigilance and foot fending was essential.

An advantage was that most locks had disembarkation staithes, again a positive plus for uphill-going boats. Locks are small to moderate size, averaging around 4m.

Ambience

The towns are nice, but the scenery is underwhelming. In dull weather it's a bit oppressive.

Moorings

There are sufficient straight-sided deep quays. The Locaboat yard at Rogny charges €11 (basic) to moor up anywhere in town: they also expect you wait around until the office opens.

Châtillon-Coligny was much more welcoming and offered a pontoon berth that appeared to be free of charge. Mooring in Montargis was €7 (all in), although there were free moorings with just enough depth near the bridge south of the town.

There's not much scope for rural mooring to land anchors, or for barbecues.

Water quality

The 1.8m depth was maintained throughout, and we had no weed problems.

Overall

At 54km it's a short canal, but with 32 locks it's quite labour-intensive. We completed the distance in four comfortable days. The Briare is a canal that's best for its historic town berths, as rural barbecue opportunities are few and far between.

Canal du Loing

Scenery and settlements

Scenery is unspectacular, but the jewel of Moret-sur-Loing at its northern end makes up for everything. Particularly associated with impressionist painter Alfred Sisley, Moret lives up to expectations. Smart new wooden jetties provide safe mooring on clear river water (€10, showers extra) and are located just downstream of the lock, a short walk from the picturesque town. Less convenient free mooring with adequate depth is upstream of the lock.

Lock procedure

All locks were in the process of becoming totally automatic. Walls have been rendered and are as smooth as a baby's proverbial. Passage is fast, efficient and stress-free as both gates at each end operate in unison. There are good ladders with safe

'tops' and all locks should have staithes both upstream and downstream. Locks are small to moderate size, typically between 1.5-3m deep. Northbound is downhill.

Ambience

Very wooded and quiet. Devoid of much open landscape, it is a bit oppressive.

ABOVE Narrow and heavily wooded, the Loing can feel claustrophobic

LEFT The Porte de Samois in Moret-sur-Loing



Moorings

There are several steep-sided quays, and plenty of lock staithes that might be used – unofficially – for overnight stops. If you don't hog them during daytime there's seldom a problem. Banks are usually too shallow for a keelboat.

Water quality

The 1.8m depth is maintained, and there are no weed problems.

Overall

At 49km and a mere 18 locks this can be knocked off in just over a day. We completed the distance in 2.5 very relaxed days.



The yacht club at Veronette had an adjacent Lidl and was within walking distance of Monet's house and garden at Giverny

River Seine downstream from Oise intersection to sea lock



Scenery and settlements

Banks are populated by towns and villages. Beyond there tends to be open countryside with rolling hills, mostly wooded.

Conflans-Saint-Honorine is a riverfront town with a great market, but mooring can be tricky for smaller boats due to huge quays. Scenery is pleasant but not 'deep rural'. The towns are nice enough, and many are good for provisioning.

Lock procedure

The industrial-scale locks, large enough to take two péniches abreast, are seldom full and are operated by lock-keepers in turrets. Traffic lights govern movements and péniches always take priority. Bollards are usually countersunk into smooth walls, but some have corrugated sheeting that necessitate a fenderboard.

Descending, we opted to return long for'ard and aft warps to the boat and paid out as we were lowered. Others choose to 'bollard-hop' – less of a problem for larger boats and those with little or no keel.

Ladder climbing in these locks would be extremely foolhardy and could well be punishable. Locks range from 2.8m-5.1m.

Ambience

Constant vigilance for péniches means there's no scope for complacency. From Vernonnet it's a 3km walk to Monet's garden at Giverny, which also includes a very good impressionists' gallery. There are sensibly-priced restaurants too. It all makes for a pleasant day out with the confidence of a secure mooring away from the main channel.

Moorings

Huge péniche wake makes sheltered mooring places few and far between, but

there are sufficient. Mooring on lock quays for the night is prohibited. Péniches operate after nightfall. An easy day's motoring seaward from the Oise confluence is Limay, totally sheltered and with shops (although Mantes-la-Jolie, over the bridge, is better). We had free mooring, and there's a tap.

A further day's motoring seaward offers attractive Vernonnet with its sailing club pontoons at €15 for one night, €10 thereafter. Water and electricity are included but ablutions were seldom open when needed. The big plus is the adjacent Lidl with a petrol station.



The ferocious Amfreville lock weir

Another day's motoring downstream is Poses and the huge Amfreville sea lock. This artists' town has no shops, so arrive provisioned. There's free mooring. With no restaurants, it's a good place for a barbecue, although Vernonnet and Limay are better.

Water quality

Depth is no problem and the water was clean. The only weed was the floating variety, and that was scant. In spate, the current is strong and governs small boat navigation. The channel location is provided in the guide and needs no more than routine attention.

Overall

The current governs speeds, but at 132km and just three locks we completed this stretch downstream in four days, allowing two nights for Monet's garden. Upstream passage would need an extra day. There are no tide concerns.



A free pontoon up the side channel at Limay had a tap and access to the comprehensive town of Mantes-la-Jolie

Tidal Seine: Amfreville to Le Havre

Scenery and settlements

The countryside is open, with a few small riverside towns against a backdrop of fairly large hills with limestone bluffs. Quays are fitted out for luxury holiday cruise boats, not small yachts. Rouen is the one main town, useful for mast-stepping (€112) and lowering. The yard is in the Gervais basin, as is the marina (€14 all inc). It's a 30-minute walk into town, although there are some restaurants not far from the marina. There's a supermarket within about 20 minutes' walk. There are small enclaves of medieval architecture around the cathedral.

Lock procedure

After the huge Amfreville lock at Poses, there are no locks – you're back in the land of tides.

Ambience

The river is wide, the scenery unremarkable. There are few if any péniches, but there are ships. With its tricky tide calculations, this stretch is hardly relaxed.

Moorings and passage planning

Mooring and anchoring is forbidden on this stretch of the Seine. Yachts must complete the passage in two hits, with Rouen the one stop. Great care is needed over passage planning, and few skippers will depart Rouen at the same time. We based our plan on guidance from the Fluviacarte 1 book *La Seine Aval*.

One tidal flood has to be taken on the nose, and most skippers ensure they reach the lower stretches with an ebb under them. It was Springs, and with the engine delivering 5.5 knots through the water



Out of the turbulent Seine and into the ooze of the Risle. The next day we were in Le Havre

Keppel's GPS read 7.2 knots on departing Rouen at 0730. At Duclair, speed over ground was 7 knots, but a couple of kilometres further on it was breaking even at 5.3 knots (1030 slack water). She averaged about 3 knots until the flood's grip weakened at Rétival, and we then did over 8 knots for most of tidal rush down to the estuary.

With a stiff westerly producing a vicious wind-over-tide chop we swung into the River Risle at 1730. Omitting Honfleur, we took dinner in a homely muddy creek with inquisitive cows peering at us from the saltmarsh banks above. We made our passage to Le Havre the following day.

Care must be taken regarding the little



The Amfreville lock is awesome in size, but since the lock will be entered near HW it's a comparative pussycat going downhill

red car ferries that crab across the fast-flowing water with little or no warning.

Suggested guidance? Start calculation with a boat speed through the water of 5.5 knots and allow 12 hours absolute max for Neaps. Apply the tide data from your PBO Almanac to estimate where you should be, and when, at any given time.

Water quality

Plenty of depth, but echo monitoring is essential, particularly on inside bends. No debris. Watch for wind-over-tide seaward of the Tancarville Bridge. The River Risle almost dries at Springs, but the mud is soft.

Overall

With the tide under her, *Keppel* did the 43km from Amfreville to Rouen in 5 hours. She took 10 hours for the 100km from Rouen to the River Risle just beyond the Tancarville Bridge.



The tidal rush down to the sea took us through some considerable gorges

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Using a circular saw

Power saws make light work of big and repetitive cutting jobs, but to get the best from them and stay safe you should follow some simple rules, as Julian Peckham explains

There's no need to be frightened of a circular power saw, but you do need to treat it like you treat the sea – with the utmost respect.

Never take chances, and always think safety first: keep fingers and loose

clothing well away from the spinning blade, and always wear eye protection. Ear defenders are a good idea too. Make sure you're using a sharp blade, and be particularly careful if you're swinging the blade guard out of the way manually before starting a cut.

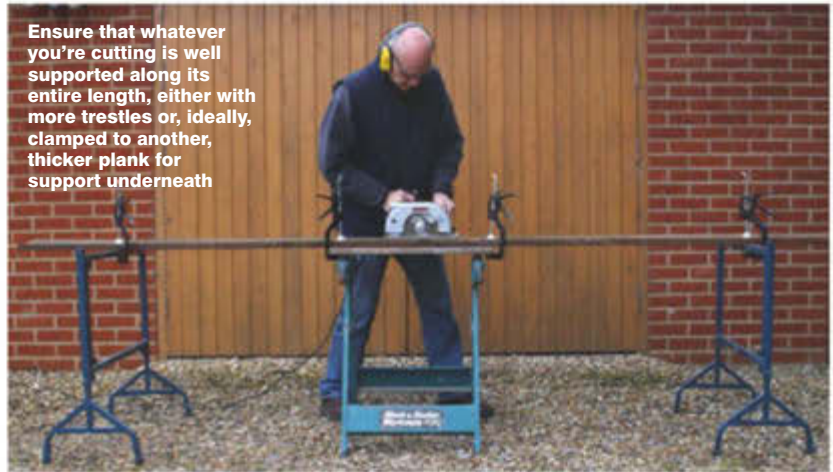


CUT TO THE CHASE: TIPS TO OPTIMISE YOUR CIRCULAR SAW



Adjust the depth so the blade is cutting only slightly deeper than the thickness of wood you're sawing – the depth of one saw tooth is about right. This avoids unnecessary friction on the blade, allowing it to spin more freely and reducing the likelihood of kickback – as well as keeping the blade cooler and putting less strain on the motor

Ensure that whatever you're cutting is well supported along its entire length, either with more trestles or, ideally, clamped to another, thicker plank for support underneath



When making either crosscuts or ripping along a length, let the saw do the work and allow the motor to keep its revs up – don't force it forwards too quickly



Make frequent checks underneath your work to ensure you're not sawing into your supporting trestles or plank – it sounds obvious, but sooner or later everyone does it!



Most saws come with a rip fence attachment for sawing lengths of timber, but the short fence means the saw can easily wander a bit, and you'll end up with a cut that's not terribly straight



This is easily remedied, though. Screw a straight strip of timber to the fence to extend its length – this will improve sawing accuracy considerably



If cutting wide boards or plywood, your saw's rip fence may not extend wide enough for your cut, so clamp a straight-edged board to the job as a fence. Ensure the fence is clamped or supported in the middle: if not, the board can bow and the saw's shoe wander beneath the fence – then your cut won't be straight



For accuracy, a clamped-on fence is particularly useful when making angled cuts – otherwise the saw can easily wander

Common mistakes



A common mistake is to simply leave the saw at full cutting depth and plough straight into the job. However, having the whole blade spin through the thickness of wood puts undue strain on the saw and increases the danger of kickback, where you lose control and the saw tries to kick away from the cut



If you're ripping along the length of a long plank, it's not enough to simply have a trestle supporting either end – there's a strong risk the plank will start to judder, the saw catch and kick back dangerously



Key responses for a successful rescue

Alex Bell and fellow crew members react quickly to save a man overboard in Key West, Florida

Four of us – owner/skipper Martin, his brother Ed, Bob and myself – had brought the yacht *Zennora* to Key West from the Bay Islands, off Honduras. It had been a mixed passage on the 16.4m (54ft) *Skye*, the last evening being particularly memorable with a violent thunderstorm which resulted in us taking sail down and running almost bare-poled with the wind, cowering from the storm and keeping away from the chain plates.

The following day we got into Key West, right at the bottom tip of the Florida Keys; the most southerly part of mainland USA. Having checked in with Homeland Security, we were anchored off the main

marinas out of the channel. I was sharing the aft cabin of the ketch with Bob. One night, at about 2.30am, I vaguely became aware of cries for help. Bob also heard the cries: we were not dreaming.

We both sprang into action. Bob grabbed the handheld searchlight and went to the aft deck, from where he located the casualty being swept in the ebb tide past our stern. Bob kept the

light on him while I called skipper Martin, who was sharing the forward cabin with his brother Ed. I went forward to launch our RIB, which was suspended on a halyard hauled out of the water. I eased the halyard on the mast winch until the RIB was floating in the water alongside, detached the snap shackle on the end of the halyard from the lifting strops, then released the painter and brought it aft in time for Martin and Ed to step down into it. They set out to where Bob was illuminating the casualty, rapidly moving out of sight in the fast channel current. Martin's last instruction was for me to call the coastguard and seek assistance.

Confident that Martin and Ed would be able to locate the casualty, who by now had drifted downstream and was probably about 300m away, I made a Pan-Pan Medico call using a handheld VHF radio. The coastguard immediately answered my call. I gave them our location and described the situation, requesting assistance.

By now the casualty had been swept out of the range of the searchlight but Martin and Ed located him, with some difficulty, using the RIB torch. Once they had grabbed

hold of him they tried to ascertain how long he had been in the water, but his replies were unintelligible: Martin and Ed thought he was either exhausted or hypothermic. Two fit men were unable to get him into the RIB, so he was draped across a sponson and they returned to *Zennora*. The casualty, a heavily-built male in a semi-conscious state, was incapable of assisting himself. Once the RIB was secured alongside we put a lifejacket on him and proceeded to haul him on board using a halyard on the same mast winch as is used to haul the RIB out of the water,

We located the casualty being swept in the ebb tide past our stern

ABOUT THE AUTHOR



Ex-merchant navy officer Alex Bell sails a Bénéteau First 305 and lectures in maths and engineering at Southampton Solent University. He is a regular contributor to PBO.

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polite and proper, first asking permission to come alongside. A paramedic came on board and examined the casualty. He was then lifted on board the coastguard boat on a stretcher: they took him to the dock and subsequently, we learned, to hospital. (I remembered to tell them that we would like our lifejacket returned!)

Having returned the tender to its night storage position we retired to our bunks, wondering what revelations the following day would bring.

On rising, we noted that on the aft cleats of a power boat anchored some 50m away, a small skiff was lying inverted, tied to the stern with some other tenders. We surmised that the casualty may have left the 'party' early, possibly having had a few too many drinks, and had capsized the skiff, finding himself being carried downstream by the tide. Luckily for him he was swept past a boat with two people sleeping lightly enough to hear his cries for help.

Reflecting on the questions the coastguard asked, we came to the conclusion that someone might have reported a missing person: we were not aware of any tender putting out from the power boat during the incident. Later on, the coastguards returned our lifejacket and proceeded over to the power boat. When their vessel returned someone was sitting in the stern with his hands behind his back, looking like he was handcuffed and appearing very sorry for himself.

Two days later, the same man – without handcuffs – stopped by in his tender to say that the casualty had made a full recovery. He offered no account of the incident. The man we rescued, and whose life we almost certainly saved, never came to thank us personally, although he apparently wasn't a frequent sailor and had vowed never to go out again. We never found out precisely what happened, and the local press carried no account of the incident. Just another night in paradise?

attaching a snap shackle to the harness attachment D-ring. Opening the guardrail gate reduced the height required for the lift, and we soon had the casualty laid out on the side deck. He was breathing and slightly delirious. Bob put him into the recovery position and started checking him for injuries. Martin and Ed fetched blankets and clothing to cushion the casualty and keep him warm.

I had a quite long radio exchange with the coastguard, during which I was asked to describe the casualty and what he was wearing. When Bob asked him who he was he gave his first name, but we had trouble eliciting a surname from him. Bob had by now concluded that he was drunk and cold but uninjured, apart from a small cut on his head. The coastguard then requested me to ask him a very pertinent question that had not hitherto occurred to me: 'Was there anyone else in the water?' The reply to this was vague, seeming to suggest that there might be. That bit was worrying, but the coastguard did not pursue this line of questioning.

After a while, a coastguard cutter arrived: we had already tied our tender off aft and had fenders ready. The crew were very

LESSONS LEARNED

1 If you think you hear someone calling for help, assume it's for real. If Bob hadn't wakened I might have thought I was dreaming and the cries would have become inaudible as the casualty was carried away by the ebbing tide.

2 At night, always keep a powerful torch or handheld searchlight handy. Ours was a rechargeable one and it eventually ran out of charge: luckily the tender crew had a torch with them and were able to locate the casualty in the dark.

3 If possible, always send two people on a rescue mission: in this instance, one person would not have been able to lift the casualty on board the RIB.

4 Have an MOB recovery plan. Our casualty was unable to sit up, let alone climb up a boarding ladder. The lifejacket with its built-in harness gave us something to which we could attach the halyard.

5 Always call for assistance from the rescue services as

specialist medical help can make the difference between life and death. In Key West, the sea is very warm: in other waters this might have been a hypothermia case.

6 Having a handheld radio meant that I could communicate while on deck with a full view of the unfolding scene.

7 We had an experienced crew of four people: with one or two people this would have necessitated a full Mayday scenario. 

*Send us your boating experience story and if it's published you'll receive the original Dick Everitt-signed watercolour which is printed with the article. You'll find PBO's contact details on page 5.



The tender touch

Peter Talbot has travelled over 1,200 miles in Zodiac Cadet inflatable tenders in the last 10 years. Here he outlines the benefits of this type of craft, and describes some of his favourite locations for trips



MAIN Inflatables lined up among the dinghies on a pontoon in Tobermory, Mull. **INSET** Peter takes the helm, with the distinctively colourful frontage of Tobermory behind him

Having asked if I had a boat, the London Boat Show salesman asked: 'Where do you keep it, on the South Coast?' 'No, in the loft,' I answered. Presumably surmising that I wouldn't be buying one of his large, gleaming, multi-berth motorboats that afternoon, he smiled politely and moved on.

I was bitten by the boating bug aged three, on the local park lake, and my interest in all boat-related matters grew rapidly. Trips on my parents' 4.9m (16ft) Microplus motor-cruiser on the river/canal network in Yorkshire were followed by holidays on the Norfolk Broads. A second-hand 'toy' inflatable boat used on the river near our caravan (and an avid interest in Jacques Cousteau films) planted an idea, and led me to buy my first Zodiac inflatable 15 years later – a 2.6m/8ft 6in Cadet with a slatted floor and a 4hp Suzuki outboard. I thought the Zodiac would allow me a low-cost, low-maintenance way of getting on the water with friends and family, to explore a range of inland waterways and some

coastal waters when the weather was favourable. After several years with my first boat I upgraded to a 3.1m (10ft 2in) Zodiac Cadet with wooden floor panels over an inflatable keel, coupled with a 6hp Suzuki outboard.

The Lake District

My first Zodiac's maiden voyage was on Ullswater in June 2005. This proved it was feasible to load the boat into my hatchback at the start of the day and then, within 60 minutes of parking up, inflate it, launch it and head off for a day on the water, before reversing the process in the evening.

Over the years I've had numerous trips to the Lake District, boating on Ullswater, Windermere, Derwent Water and Coniston between March and the end of October. Ullswater is the prettiest in my opinion, with impressive mountains close by. Windermere is the largest and boasts shoreline amenities including a campsite at Low Wray and shops/cafes at various places. Coniston Water is famous for its connection with Donald Campbell, and also boasts Peel Island (aka Wild Cat Island from Arthur Ransome's *Swallow and Amazons*) complete with its 'secret harbour'.

The shallow draught of the Zodiac allows you to visit such islands – but check beforehand that landing is permitted – and also enables a journey half a mile down the often extremely shallow River

ABOUT THE AUTHOR

Peter Talbot has been boating for over 30 years. He holds RYA Advanced Powerboat and Safety Boat certificates, and helps to helm the rescue boat of his local Sea Scouts when he's not out in his Zodiac.



A perfect fit! No road trailer is required, so transportation (and storage) is easy and cheap



Of the lakes in the Lake District on which you can use powered craft, Windermere is the only one where they need to be registered. **INSET** Peter's friend Graeme on Ullswater

Leven, at the southern end of Windermere, to Newby Bridge. Windermere is the only lake requiring powered boats to be registered. Based on hull length, my annual fee is £15 a year. Bear in mind that the Lakes can be up to one mile wide, so they can be affected by strong winds: I've experienced waves of around 2ft on Ullswater, which can make things lively.

Inland waterways

The Canal & River Trust manages 2,000 miles of canals and rivers in the UK. As well as being interesting destinations in their own right, rivers and canals offer more sheltered boating – particularly useful at the start or end of a season when the weather is less reliable. Day licences can be bought online at the last minute, once weather forecasts have been checked. For my boat, these cost £15 for a day on both the canal and river network. Longer-term options are available, as are 'river only' options. The automated email response provides proof of payment.

One of my longer day journeys was the route from Ripon to York. This starts on the canal, then joins the River Ure at Oxclose lock before becoming the River Ouse. All the locks on the 30-mile route are self-operated, so you need to know what you're doing and take a windlass lock key. We made a day of the journey, with good weather all the way, and got to York at 6pm. Mooring right in the city centre, we had a quick look round and then motored downriver to the campsite owned by York Marine at Bishopthorpe, catching the bus back to Ripon the next day to retrieve the car.

My next river journey was a five-day, 130-mile trip down the River Thames

between Oxford and Richmond with my friend Lee. As with my journey the year before along the Caledonian Canal – a 60-mile route along the Great Glen, linking Fort William to Inverness via Lochs Lochy, Oich and Ness – we carried all our gear on board and camped as we went. We camped at a mix of commercial sites (Clifton Hampden and Staines), on an island at Cookham Lock and also on the Mapledurham estate, all with prior arrangement. Mapledurham was used as a location in the film *The Eagle has Landed* and we camped near the watermill,

expecting Michael Caine to burst round the corner at any moment.

All 38 locks we passed through on the journey were operated efficiently by lock-keepers, as on the Caledonian Canal. We experienced a few heavy downpours – including our heaviest in 10 years of boating! – but enjoyed passing through places like Reading, Henley, Eton and Windsor. Although lacking the mountains found along the Caledonian Canal, the countryside was nevertheless attractive and we saw a range of wildlife – our record being three kingfishers, three herons and three red kites on day two, all before 10am! Boat licences for the River Thames are bought from the Environment Agency.

Coastal trips

The coastal area I most frequently visit is the north-east, launching at the public slipway at South Shields (for which a fee is payable). In good weather, I've enjoyed return trips north as far as Newbiggin by the Sea, and south as far as Sunderland.

Planning is important with all trips, and never more so than on the sea. I've had sea-kayaking experience in the past, and



Mapledurham Watermill was used as a location in the 1976 film *The Eagle Has Landed*



Operating a lock on a day trip from Ripon to York
INSET Camping on the Mapledurham estate



Loch Oich, one of the lochs encountered on a 60-mile journey along the Caledonian Canal
INSET The Resipole campsite on the shore of Loch Sunnart



there are a lot of crossover skills – eg assessing weather/tide/wave height, identifying boltholes just in case and carrying the correct emergency gear.

On the west coast of Scotland we spent a week at Resipole campsite, on the shore of Loch Sunnart. It's a great place from which to explore the full length of Loch Sunnart, and we enjoyed seeing seals and porpoises near the boat – a benefit of coastal cruising. We also had a memorable day trip over to the colourfully-painted Tobermory on the Isle of Mull. This was a 33-mile round trip, first down the loch and then across the Sound of Mull. There was only a very light wind and a few clouds, but we had a couple of showers as we neared the campsite on the way back.

Scandinavia

The portability of the boat by car, coupled with the experience I've built up over the years, has enabled boat journeys to be made further afield. After a trip to Sweden in the car, my friend David and I travelled 150 miles inland from Söderköping along the Gota Canal/lake network over six days, camping from the boat as we went, having left the car at Söderköping. Some of the lakes are among the largest in Europe.

Last year I completed a five-day, 135-mile boat journey with my old school friend Graeme in the Norwegian fjords. Camping keeps the price down, and the cost of these trips is largely that of getting the car to and from the start point of the boat journey. The success of these trips highlights the practical benefits of such craft as the Zodiac, and also gets me thinking about potential future journeys.

Unique experiences

On a small open boat you're close to the environment, so while this means that you get wet when it rains and you need a sun hat when it's sunny, it helps you appreciate where you are. In Sweden, we saw ospreys circling their nest, watched a water vole swimming near the canal bank and saw a grass snake swim across the canal in front of us. I doubt we'd have noticed them all from inside a wheelhouse.

There's also a great camaraderie with other boat users. 'We started out in a boat like that,' the owners of a 15m Grand Banks trawler-style motorboat told me in Inverness. A man who'd upgraded from my size of Zodiac to a 3.8m (12ft 6in) RIB told us he wished he'd kept his smaller boat as well, as his RIB always needed a slipway to launch – unlike the lightweight inflatable. Shore-bound fishermen often ask how much the boat cost – I could probably have sold several – and we've



Motala was among the stop-offs during a six-day Swedish sojourn

had the owner of a large motorboat disembarking to enquire if we wanted our lines caught as we approached the other side of the same pier.

On Ullswater, we've ferried crew out to a yacht when shallows prevented them being picked up from a nearby jetty, and received an invite to their barbecue. We've become adept at retrieving hats, including a fisherman's on Loch Ken, one belonging to a boater by Goring Lock on the River Thames, and one of our own on Loch Ness. I've been grateful of a lift back to the car from a kayaker after deteriorating weather on Ullswater shortened one of our earlier day trips, and returned the favour by towing canoes through a lock on the Caledonian Canal, saving their owners a portage.

Modifications

I've read that Zodiac have built more than three million inflatables since they started making them in the 1950s, so they obviously have a lot of experience. The boats come ready to use, but I've made a few alterations over the years.

I've had launching wheels fitted to the transom, which is useful when launching from slipways. When afloat, they're either stored vertically or, more often, easily removed to improve aesthetics! A detachable, home-made plastic bulkhead on my first Zodiac was attached between the seat and the closest floor slat to keep my bags/fuel tanks up front. In my current boat, metal loops on the floor panels beneath the seat hold a quick-release strap which passes through the handles of my fuel tank to keep it in position.

I've also converted an old DIY Workmate into a stand for flushing out my outboard after salt water use (as featured in Practical Projects, PBO July 2013). On longer journeys I use an elastic cargo net to keep my waterproof canoe bags in place and have made a quick-release, camouflage-coloured boat cover from plastic tarpaulin: this helps the boat blend in when moored overnight, and keeps rainwater out.

Owning a SIB

Operating small Zodiacs in the way I have for the last 10 years is probably not the typical usage for this form of craft.

Most inflatables of a similar size act as tenders to larger boats, being either towed or stored on deck or in lockers for the majority of their lives, with sometimes only occasional use.

The relative low cost of these boats when compared with larger options makes them attractive to those wanting to get on the water. I decided to buy new from the very helpful Phil and Mark at PA Lynch Ltd, my local Zodiac dealers, and 'traded in' when upgrading as there's a strong market for second-hand outboards. Zodiac and similar companies do a range of soft inflatable boats (SIBs) like mine, with

I'm very happy with my choice, and see no reason to change



Just about to pass beneath a lifting bridge on Sweden's Gota Canal



Fitting the thwart and preparing to inflate the boat at the start of the trip



One of the two manually operated locks on the Gota Canal

differing hull lengths and floors – eg slats, inflatable floors, or wooden or aluminium floor panels.

It's thought that a 15hp engine is around the maximum size which is easily portable. SIBs can be stored and transported while they're rolled up so they can fit in the back of a car and

don't need a road trailer. This makes transportation and storage easier and cheaper: no mooring fees or trailer storage/

maintenance are required.

Setting the boat up is straightforward, and involves installing the wooden floor panels then inflating the two tubes and keel using a foot pump. The process takes about 30 minutes. When ready, the boat can be carried by two people – or one if you're using the launching wheels – so with the necessary permissions, it can be launched in a range of locations without always needing a slipway.

The boat is cheap to run, with the main ongoing yearly costs being an engine service at around £95 (to ensure it's ready for the next season) and insurance cover at

£60 – theft protection plus third party liability cover, which is required by some waterway authorities. Maintenance of the boat can be limited to a wash with a hosepipe every now and again if you wish.

My Suzuki engines – both my 6hp and the earlier 4hp – have been extremely reliable. The 6hp is economical: with two people aboard, plus camping equipment/supplies for a few days, we use around 0.34lt of petrol per mile. This results in low running costs and means that although refuelling on multi-day trips needs to be planned, it isn't a limiting factor: the amount of fuel we're looking for can easily be carried from a nearby petrol station.

The boat does of course have its limitations: it's obviously not as seaworthy, fast or spacious as an 8m (26ft) RIB with a 150hp outboard! Careful planning and consideration of weather conditions is required, while the correct safety equipment must be carried and the appropriate clothing worn.

It's said that every boat is a compromise of initial cost, practicality, size and so on. However, I'm very happy with my choice, and see no reason to change.

Preaching to the converted

David Berry praises and demonstrates the efficiency and versatility of DC-to-DC converters, using circuits bought from the internet to make a dimmer control and a simple, economical trickle-charge regulator

My first contact with a DC converter was one I could have done without. I was an apprentice serving time in the company garage, and the mechanic who was teaching me decided I needed waking up. The induction coil ignition on our forklift trucks was a DC converter that took 12V from the battery and converted it to about 10kV to jump the spark plug gap or, to the delight of the assembled mechanics, jump into a dozing apprentice's finger: 'just touch that screw in the distributor cap to see if it rotates...' Luckily there wasn't a lot of power in the spark, or the world's garages would be littered with dead apprentices.

Now, much later, the same induction coil technique is applied to low-voltage converters that can, for example, power your laptop from a 12V socket by boosting the voltage to somewhere around 20V (and then, inside the laptop, another DC converter drops it again to the 5V or 3V the logic circuits use). If you have an MPPT controller on your solar panel circuit then you will have a DC converter inside it to transform the panel's output into the battery with the minimum of power loss.



I used a DC-to-DC converter to make an LED light dimmer control



A range of low-power DC-to-DC converters, each costing about £1. At the top is a version with a built-in voltmeter that will measure input or output volts; at left is a version with a current limit; on the right are two similar-looking devices that will drop ('buck') or increase ('boost') the output voltage, and at the bottom is a tiny device that will nevertheless handle 3A

Rapid switching

The beauty of alternating current (AC), the stuff you have in your home, is that it can easily be transformed from one voltage to another – either up or down – by a simple inductive device called, unimaginatively, a transformer. Transformers offer near-perfect conversion of power, losing only a few per cent of the power they transmit.

In contrast, changing the voltage of a direct current (DC) had, in the past, required its conversion to AC then transforming it before converting it back to DC at the required voltage. These days, the availability of high-power field-effect transistors (MOSFETs) allow DC converters to use rapid switching – hundreds of thousands of cycles per second – to produce the output voltage. Power can be fed into an induction coil, then the source is disconnected by the FET and the coil field collapses, creating a high voltage which is conditioned and fed to the output at whatever value is required.

So, DC converters are like 'DC transformers' and are about as efficient, transforming power with very little loss. You need to think in terms of power, however: since power is the product

of volts and amps, if the volts are, say, doubled by the converter, the amps available will be approximately halved. Conversely, and often usefully, if the voltage is halved the amps are doubled. You could compare this with linear regulators, which are simpler but can result in significant power loss as they dump all the power the load can't handle as heat.

Like AC transformers, DC converters can either decrease voltage ('buck' types) or increase voltage ('boost' types). You might already have few about your boat. If you run your laptop from the 12V supply, then you probably do so through a DC converter that boosts the voltage to whatever your laptop requires, and you can buy these off the shelf at Maplin and many other places. If you run or charge devices from a USB supply plugged into a 12V socket then again you have a DC converter, but this time it will drop the voltage to a stable 5V.

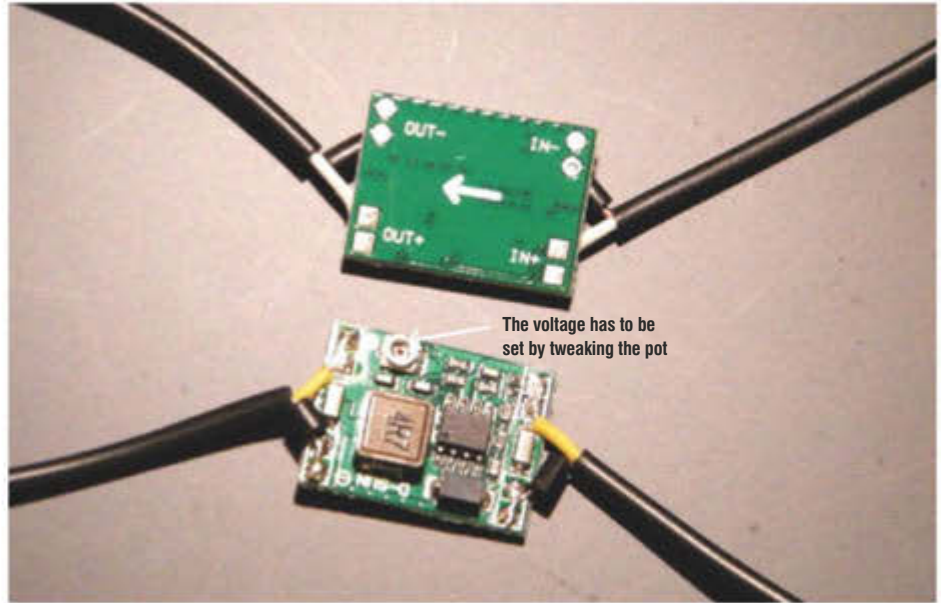
But what if you want to do something a bit more bespoke? I had two requirements on our Moody Eclipse 33 *Aderyn Glas* which could best be met with circuits bought from the internet: the first was a simple regulator for trickle-charge solar panels and the second was an LED light dimmer.

Making a trickle-charge regulator

I was shocked when I found that my 15W trickle-charge solar panel was capable of delivering enough energy to the 105Ah starter battery to take its voltage into the red zone, getting near to 17V. This was really unexpected and probably unusual, but I needed to ensure it wouldn't happen again if I wasn't around to monitor the situation. So I used a postage stamp-sized DC converter and a Schottky diode to make an efficient voltage-limiting regulator.

These little circuits can deliver 3A, though you should de-rate them down to 2A just to remove the stress – so they are good for trickle-charging only. They are no substitute for a full-sized regulator for a serious solar panel setup (see PBO January 2015 for more about that). A distinct advantage is that they have no current-draining LEDs which, over the timescale my trickle-charger is used, can make a dent in the battery's capacity.

Unless you are certain that your solar panel setup has a diode in the circuit to prevent



Connection is simple: on the reverse side, the input and output connections are marked. Before connecting the output to anything the voltage has to be set by twiddling the pot (the round metal device near the '+' sign) until the output voltage is the required value. This will cap the voltage at a safe level but will not increase the voltage if the input falls below the capped value



The smallest 3A DC converter I've ever seen

reverse current flow from the battery to the panel, you should add a Schottky diode between the regulator and the battery in the positive line (marked '+ out'). Use one which has 3A or greater capacity.

The converter has four connections labelled '+ in' and '- in' and '+ out' and '- out', so all you have to do is connect the + and - from the panel to the 'in' side and the battery + and - to the 'out' side. With the panel delivering power, but before connecting the unit to the battery, measure the output voltage and tweak the pot to set the maximum output voltage at whatever

you want it to be: mine is set at 14.4V.

The chances are that when you connect the unit to the battery, the battery will absorb all the current available – it is a trickle-charge after all – so the voltage will not reach 14.4V. However, if you have a situation like I did last autumn, then this device, costing less than a pound, will act as a safety valve.

A cheap bench power supply

You may not have a bench power supply on your wish list, but there might be times when you want to play with bits of kit at home and wish you had a variable supply available. The cost of a bench supply is enormous, but luckily there are cheap DC converters which you can feed from a switched mode supply from a laptop, for example, and these come with a built-in voltmeter which you can point to either the input or output voltage.

By now you won't need me to tell you how to connect the unit, so go ahead and connect the four wires. Make sure the output is turned down to a voltage below that required for whatever you want to connect to it, and always return the output to a low value when you've finished using the supply. This is just good practice, and prevents you from accidentally turning the unit on when you've left it set at a high level, with consequent damage to whatever you're testing.



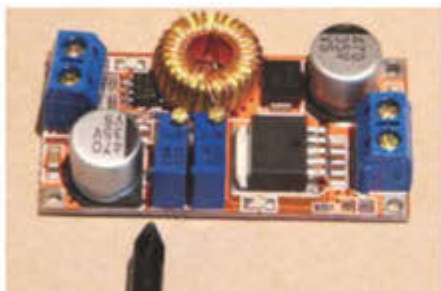
The whole thing fits into a tiny box which, on my boat, plugs between the panel and battery

Making a dimmer control using a DC converter

Many people now use LED strings either internally to light areas such as the galley and heads, or externally – ie in the cockpit. We do the latter, and I wanted a dimmer control to allow us to wind the light level up and down. LEDs are essentially current-sensitive devices, and although the output brightness can be

controlled by changing the supply voltage, when the level is changed frequently it's better to control current.

Luckily there are DC converters which come with current limiting as standard, so I adapted one of these for my dimmer control.



Here's the DC converter with the current-limiting feature identified by a second screw-type pot (at the tip of the screwdriver). To make the device more user-friendly I removed the pot and replaced it with one that can be adjusted with the fingers



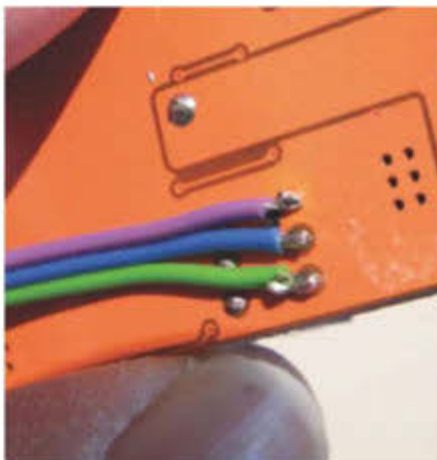
The pot comes out easily with a bit of tooth-pulling, leaving behind small wire legs soldered to the PCB



The legs are best left in place since they may be used to connect the top and bottom surfaces of the PCB: modern PCBs are a multi-layer sandwich



The new larger pot is a bit special. The perceived brightness level is not linear and the controlling pot needs to compensate for this, so we need a 10k logarithmic pot. These are reasonably rare, and I found mine on eBay. The pot must be a 'reverse log C pot' which will be marked 'C10K' (an 'A10K' is not the same). Buy a suitable knob at the same time



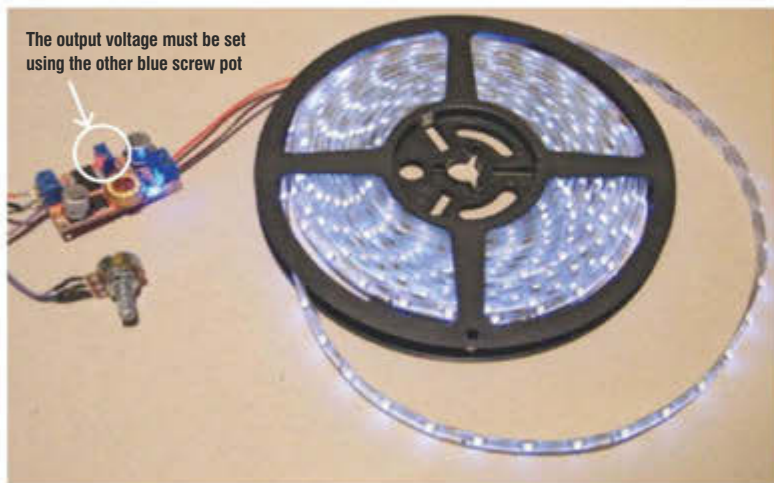
The wires are soldered to the pads that previously had the screw pot legs soldered in place. It's important that the centre pad goes to the centre contact of the new pot and the other wires are connected as shown



As always, use a fine-tipped soldering iron and support the joints with heatshrink sleeving to avoid fatiguing the soldered joint



The logarithmic pot must be oriented a particular way, or the range of movement over which the LED dims will be small. Have a careful look at this photo, and make sure you wire the three tags to the three PCB pads in the same order



The output voltage must be set using the other blue screw pot. I set mine to 12V, but if the battery voltage drops anywhere near that the output light level may dim a little, so it may be necessary to set the output lower to get a consistent light level. Add a 12V cigar lighter plug (if that's what you want to use) to the 'in +' and 'in -' terminals of the convertor and mount the whole thing in a suitable case

How to select and buy

Used with due care, eBay is as good a source of DC converters as anywhere else, and you'll generally find them for a fraction of the cost of a unit from the large retailers. You get no warranty, of course, so be sceptical – and don't use anything you have a doubt about on something that is precious.

Do also ascertain whether the supplier specialises in this type of equipment. Recently I checked out a supplier of DC converters from China, only to find this was the only electronics item sold by a shop specialising in sex toys. What an eye-opener!

There are genuine UK-based suppliers on eBay, but I suspect that the quality of the devices is no different from the native Chinese version – they are clearly the same circuit – although you will get them more quickly. As always, I'm not going to recommend any particular supplier, but here is what you need to search for:

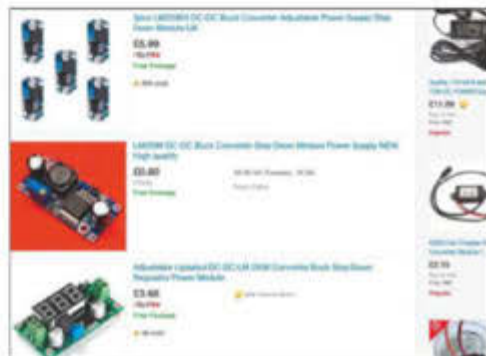
'Buck'-type DC converters output a voltage lower than the input. The ones for sale seem to be mainly based on the LM2596 chip, so a search on eBay for 'buck DC converter LM2596' will bring up a selection. For a similar device but with more current capability, search for XL4005 in place of the LM2596. This is the chip in my LED dimmer circuit.

'Boost'-type DC converters output a voltage greater than the input. These will be based on LM2577 or XL6009: the latter supersedes the former, but either is fine.

To select the right size you need to know a few things about the device you are connecting to; the LED string or the solar

panel, for example. In my trickle-charger case I knew the solar panel maximum voltage (the open circuit voltage) was about 22V and its maximum power was 15W: the battery was a standard 12V unit, so its maximum sustained voltage shouldn't exceed 14.4V. Therefore I needed a DC converter with an input range exceeding 22V and capable of delivering 15W.

The output would be determined by the battery and set by me to 14.4V, so this would make the current 15W divided by 14.4V, giving a little over 1A. I chose a converter that would handle 2A to give a little leeway.



Searching on eBay for 'buck DC converter LM2596' will bring up a selection

Selection of the converter for the LED string was simpler. I knew the LEDs needed 12V and 12W, so I only had to find a converter that would output that wattage (again, converting this to current we get 1A) and with an output voltage range that included 12V and an input voltage range that covered the battery volts, say 15V max.

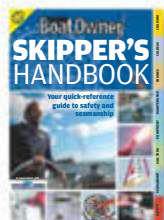
Finally, DC converters were notorious for interfering with radios. I've never noticed any problem with the ones I've used, but I do take care to position them some distance from the radios on the boat. If your radio is affected, try moving the converter physically further from the radio, or shield the converter within a grounded box.

A quart from a pint pot

I was asked recently whether it was possible to derive 24V from the 12V battery supply. The solution is a second type of DC converter (a 'boost' converter) which steps up the voltage applied to it. The connections are very simple, and again, be sure that the circuit you buy is capable of continuously delivering the current required at the output voltage. To set it up, connect the input then twiddle the pot to get the correct output voltage. Then connect the output and check the voltage again.



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How to make cockpit cushions

Paul Vellacott discovers that making cockpit cushions saves money and is comfortably within everyone's capabilities

We have owned our 9m (30ft) Feeling 306 for about six years. The cockpit seating is well designed for our needs, but each year we have found ourselves longing for something a little more comfortable than GRP. We considered teak or its man-made substitutes, but eventually opted for fitted cushions. We decided to try making them ourselves, primarily for cost reasons, and to our delight the finished cushions provide not only much-improved comfort but also a feeling of greater security while sailing.

We started by enquiring at several boat shows about the materials normally used by suppliers along with general design requirements. We quickly realised that we needed to list our own key design needs, which were:

- Sailing the boat shouldn't be hampered in any way.
- The cushions had to be not too thick in case they got in the way of lines/sheets into the cockpit.
- They had to be strong enough to be walked upon quite often.
- They had to stay in position either when being stepped upon or when the boat was heeling.
- They had to be not too light so the wind wouldn't grab them.
- They had to be reasonably water-resistant and tolerant of salt water.
- They had to be comfortable for up to six people eating at the cockpit table.
- They had to be divided so as to allow for ease of storage, easy access to cockpit lockers under seats and maximum versatility of usage either as squabs or backrests.

As with so many DIY projects, it helps enormously to plan out the job and be prepared



The finished cockpit cushions in Paul Vellacott's Feeling 306



These are most of the tools and materials we used



RIGHT The cushion fabric with one of the paper templates we made to ensure the cushions would fit snugly

ABOUT THE AUTHOR



Paul Vellacott is a retired engineer who, always liking a challenge, has moved from dinghy sailing to yachts in the past few years. He sails a Feeling 306 lift-keeler from the River Hamble.

The cushions are comfortable and readily adaptable

to change your plans as you proceed. Some of our design requirements became honed through this process. For example, we ended up dividing the cushions into three each side of the cockpit so that they would not only split at the cockpit lockers but would also be an exact mirror image of each other on either side of the boat (except for accommodating the autopilot). This not only improved their versatility, but simplified the task of making them.

Choosing and preparing the foam

We considered using closed-cell polyurethane, but soon ruled this out as too hard to sit upon. We had been advised by a cushion supplier that for open-cell foam we would need a thickness of 3in. However, we felt that this would be too bulky and get in the way, so via the internet we found an open-cell foam designed for pub seating and the like, which is adequately dense for a thickness of 2in. This foam had the added advantage of being quite heavy.

We made up thick paper templates on the boat to ensure that the cushions would fit snugly in position. We ordered the foam to be cut as two long strips, one for each cockpit seat. Even though we had made the templates, we decided to take the foam to the boat and shape them



The foam was cut and shaped to size



Wrapping one of the pieces of foam

INSET After one month's continuous usage, we were particularly pleased with the durability of the wrapping

there to fit. For this task we were advised that an electric carving knife is best, but we used a sharp bread-knife. We rounded the front lip of each cushion to minimise the risk of lines and sheets catching on them.

To make the cushions reasonably water-resistant we wrapped the foam in pallet wrap, and found that three layers is about right. Since this is cheap we will be able to renew it each year if necessary, but judging by its perfect condition after one month's continuous usage we think it might last several years before renewal.

The results

Our new cushions look smart and have already been a real boon both for sailing and relaxing. We are particularly pleased with the non-slip material, which is so effective that we have now decided against our original plan of fitting straps. The 2in thickness has proved to be just right with the particular foam we bought. Of course, the quality is probably not as good as most cushion suppliers would achieve, but the cushions do the job admirably: and there is nothing like the satisfaction of making something yourself.

Since completion, the cushions have seen considerable usage including being out in a sudden storm halfway across Lyme Bay, where it was necessary to quickly put in two reefs. In the process of moving fore and aft the cushions gave as much grip as the original seat, if not more, and they stayed solidly in place throughout. Although they were put away when it really started to pour, the condition of the pallet wrapping after so much use suggests to us that they could have stayed out with the foam remaining dry.

'There is nothing like the satisfaction of making something yourself'



Assembling the cushion covers

To ensure that the cushion covers were adequately hard-wearing, we made them from an acrylic fabric similar to that used for sprayhoods. This we could just about sew using our domestic sewing machine. We also used heavy-duty corrosion-proof zips, again as used for sprayhoods, but on reflection we could perhaps have used something a little lighter.

To ensure that the cushions wouldn't slip we bought a non-slip material online that we sewed to the underside of each.

We had very little experience of making cushions and found that there was a lot of trial and error for the first cover, and a fair amount for some of the others too: it does not help having to machine them inside out. Pinning the fabric before machining was the most practical way, except for some of the tightest bends where we used tacking (ie hand-sewing first).

The great thing about using such a strong



Tacking was used for some of the curves to be machined



The covers were machined inside out

fabric is that you can remove the stitches quite easily and have another go. The zips were the most difficult bit to get right, in such a way that the ends were covered by the fabric: this was to prevent the zippers rubbing and marking the GRP seating surfaces. To make the fabric fit neatly around the foam, it is necessary to make the covers a little smaller than the foam: between 1-2cm smaller was about right.

Another area we found very fiddly to sew was the cushion that accommodates the autopilot. The hole for the autopilot pillar was particularly difficult. For tight curves, stretching the fabric along its edge (but being careful not to tear it) before machining helped. The foam for this cushion needed to be in two parts to fit round the hole.

Cockpit cushion tips

- Do plenty of research, and don't just accept everything the experts tell you. The internet is a mine of useful information.
- To get the hang of things, make up one of the easier cushions first.
- If at first you don't succeed, then try again. We got through a whole reel of thread before we had finished. A stitch unpicker turned out to be an essential tool!
- It's better to buy too much fabric than too little, to allow for mistakes.

What it cost

Foam	
50-density commercial seating foam	
TW Foam Ltd	£41
Cushion fabric, zips and thread	
Acrylic canvas (uncoated)	
Heavy-duty UV thread	
Hawke House Ltd	£76
Non-slip fabric	
StayPut ECO PER fine-mesh fabric	
Practical Surfaceware	£25
Pallet wrap	
One black roll	
eBay	£6
TOTAL: £148	



10 jump starters

TESTED

ABOUT THE AUTHOR



Emrhys Barrell has worked in boatyards including Macwester, Groves & Guttridge and Palmer Johnson, and built *Great Britain 11* for Chay Blyth. He was technical editor of *Motor Boat & Yachting* then launched *Motor Boats Monthly*, followed by *Luxury Yacht* and *Canal Boat & Inland Waterways*. He lives beside the Thames in Goring.

Emrhys Barrell tests 10 jump starters/power packs intended to get your engine started if your battery is flat

Have you ever come down to the boat and found your engine start battery flat? It could be that someone has left a light on in the cabin, or the bilge pump float switch has stuck on, or just that the battery has been losing capacity over the years and the first start of the season has killed it. Whichever, you are stuck: and unlike with a car,

you can't just pull another one alongside and use a set of jump leads.

The answer is a portable jump starter or power pack. This consists of a half-size 12V battery in a plastic case with a carrying handle, and short jump leads permanently connected across its output terminals. You just clip the crocodile clips across your dead battery, wait a minute or two, then turn over your engine.

Jump starters come in a variety

of sizes to suit small or large engines, and can also have extra features giving them other uses on board. These include 12V outlet sockets, compressors and even 230V inverters. Most are either gel or AGM lead acid, so they will not spill if they are tipped over. We also tried two of the latest lithium power packs. Super-light and compact, they are mainly aimed at car use, but we wanted to have a look at the latest technology.

How we tested them

The units on test quoted output ratings either in ampere-hours (Ah) or maximum cranking current, but neither of these is realistic for what we want to know. Cranking amps are defined in one of two ways. Cold Cranking Amps, CCA, are defined as the maximum current a battery will deliver for 30 seconds at -18°C, before the voltage drops to 7.2V. Meanwhile, Marine Cranking Amps, MCA, are defined as the maximum current the battery will deliver for 30 seconds at 0°C, before the voltage drops to 7.2V.

However, what we want to know is how long the jump starter will crank a typical engine at typical temperatures: in our case 15°C. So we looked at two different engine sizes, and then tested how long each pack would crank them for. To do this we had to work out the actual power taken by a typical starter motor when you are turning the engine. A 10-20hp diesel, as found in many sailing boats, will have a 1kW starter motor. This will take around 90A from the battery when cranking. A 40-50hp diesel, as found in many river cruisers and narrow boats, will have a 2kW starter, taking 180A. In petrol engine terms, a 2,000cc engine will have a 1kW starter, while a 4,000cc engine will have a 2kW starter.

Rather than actually using a starter motor, which would give varying results as the engine turned over, we set up a fixed load bank. We worked out that a 12V vacuum cleaner takes around 12.5A, so seven of these in parallel would take a consistent 90A, while 14 would take 180A. (And in case you are wondering why I have got 14 vacuum cleaners in my loft, that is another story from my past life!) We then hooked up each jump starter in turn to a flat battery that we had discharged to 10V, and timed how long they delivered power until the voltage dropped to 7.2V. We did this for each unit at 90A, then 180A, recharging the units for 48 hours in between using their mains chargers.

Realistically we were looking for at least 5-6 minutes'

12V vacs in parallel provided a load bank equal to 1kW and 2kW starter motors

INSET A clamp ammeter measured current delivered by each pack



cranking time, as we considered this the minimum that would be necessary to pull the fuel through if you have run out, or to bleed the system, or just to get the engine turning over fast enough to start, with a couple of restarts in reserve.

With some of the units, it is recommended that you only crank for 10 seconds at a time, then wait 2 minutes for the battery to recover – but when we tried this, we were surprised to find it did not make any significant difference to the overall cranking time.



A master switch enabled us to turn on all the vacs together

Lead acid battery technology

Seventy-five per cent of batteries sold today are still lead acid. Cheap, simple and reliable, their weight penalty is not an issue in most applications. Lead ore is widely found worldwide, and its low melting point makes it cheap and easy to smelt. In its solid form it has a very low environmental impact, and it is almost 95% recyclable at the end of the battery life.

The first lead acid cell was invented by Gustav Planté in 1859, and the principle has remained virtually unchanged ever since. He found that when a plate of lead (Pb) and a plate of lead oxide (PbO₂) were immersed in sulphuric acid (H₂SO₄) they developed a potential difference of 2.1V, causing a current to flow in a circuit connected across them.

As the process continued, both plates turned to lead sulphate (PbSO₄) and the sulphuric acid to water (H₂O). At the end of the process, if a reverse current was applied, the plates reverted to their original composition and the water turned back to acid.



With AGM batteries, the acid is held in spongy glassfibre mats between the plates

Put six cells in series and you have a 12.6V battery. Add more plates to each cell, and you increase the overall capacity of the battery.

Since then, the only major changes have been in how the acid has been fixed. Originally it was a free liquid, so if the battery was tipped over or holed it leaked out, and the battery was called a wet cell. The next step, in the 1930s, was to gellify the acid. This meant that if it was tipped or holed, nothing would run out.

The final step in the 1970s was what is called absorbed glass mat, AGM. Here the acid is held in spongy glassfibre mats between the plates. Again, even though it is still a liquid, if the battery is tipped or holed, nothing runs out.

Jump starter products on test

Clarke JS900

PRICE: £65

Contact: www.clarketooling.co.uk

A basic unit with permanently live clips, a 12V socket and light, plus a handy pocket in the back so the instructions are always with it. (Now why does every piece of equipment we test not have this feature!) It has hefty clips, good-size cables (1.1m long), and it gave 6 minutes cranking time for our smaller diesels at a very competitive price. It weighs 8kg.



Clarke JS1010

PRICE: £110

Contact: www.clarketooling.co.uk

Moving up the Clarke range, this has an on/off switch for the clips, a 12V socket, a light and a compressor. The 1m cables are a good diameter, with hefty clips. This unit gave 8 minutes cranking for a small diesel and nearly 5m for a 40-50hp, but at a price 50% more than the JS900. It weighs 9kg.



Clarke 5 in 1

PRICE: £125

Contact: www.clarketooling.co.uk

As its name implies, this has everything. Two 12V sockets, two USB sockets, a compressor, a 300W inverter and a light. It has an internal relay to switch the power on. The cables are only middling size and are 0.9m long, but it gave a healthy 7m 30s of 1kW cranking time, at a weight of 10kg.



Clarke JS4000

PRICE: £140

Contact: www.clarketooling.co.uk

If you want maximum bang for your buck, then this is the one. There's no frills – just a light, a 12V socket, a pair of the thickest cables (we would estimate 35sq mm) which are 1.2m long with hefty clips, plus an on/off switch for the power. On test it gave nearly double the nearest competitor's cranking time at 19 minutes for the 1kW and 10 minutes for the 2kW starter. The weight of 17kg explains where all this power comes from.



Sealey RS1

PRICE: £130

Contact: www.sealey.co.uk

This is a basic unit with permanently live leads and a 12V socket. It gave 8 minutes cranking time at 1kW and 4 minutes 30 seconds at 2kW, and weighs 9kg: but for the price you would have expected more features.



Hilka RAC

PRICE: £35

Contact: www.hilka.co.uk

The smallest, lightest (5kg) and cheapest of the lead acid models, this would give you 1kW at a pinch for 2 minutes 30 seconds, but realistically it is probably of more interest to car owners.



Ring RPP160/170

PRICE: £105/£135

Contact: www.ringautomotive.co.uk

Ring makes a huge range of automotive equipment and many models of power packs: we have just chosen four to give an idea of the options. The RPP160 and 170 are the same model, but the 170 has extra features. The 160 is a basic jump starter with a 12V socket, a USB socket and a light, plus an on/off switch for the power. The 170 adds a compressor and a 200W inverter for an extra £30. The mid-size cables are 0.8m long, with very strong croc clips. Both jump starters gave nearly 6 minutes of 1kW power, and 2 minutes 30 seconds of 2kW. Weights are 8.5kg and 9kg.



Ring RPP265

PRICE: £150

Contact: www.ringautomotive.co.uk

This is double the weight and power of the 170, with a corresponding increase in performance. The 265 does not have the compressor, but it does have a 300W inverter and all the other features. It gave 10 minutes cranking at 1kW and 5 minutes at 2kW: however, when you compare its output to the similar capacity Clarke 4000, it is well down. The 1.2m cables are a good size, with very strong croc clips.



Ring Li RPP900

PRICE: £85

Contact: www.ringautomotive.co.uk

This has the latest lithium ion battery technology, making it light and small. As mentioned earlier, it is not really appropriate for a boat, giving only 1 minute 15 seconds cranking at 1kW, but it would be handy to keep in the car for emergencies.



Sealey Li 405A

PRICE: £160

Contact: www.sealey.co.uk

This also uses lithium ion battery technology, this time with a bit more power, and gives 1 minute 30 seconds cranking at 1kW, but it's still not really up to what we would be needing on board, and has a high price to go with it. However, both this and the Ring Li RPP900 could be the shape of things to come, and we are grateful for the chance to look at them.



Jump starters at a glance

Model	Claimed output Ah/A	PBO tested 10-20hp cranking time	PBO tested 40-50hp cranking time	Weight	Perm live leads	12V socket	USB socket	Compressor	230V inverter	Light	Price*
Clarke JS900	400A	6m 0s	2m 45s	8kg	Yes	Yes	No	No	No	Yes	£65
Clarke JS1010	17Ah/400A	8m 0s	4m 45s	9kg	No	Yes	No	Yes	No	Yes	£110
Clarke 5 in 1	18Ah	7m 30s	3m 15s	10kg	No	Yes	Yes	Yes	300W	Yes	£125
Clarke JS4000	38Ah	19m 0s	10m 0s	17kg	No	Yes	No	No	No	Yes	£140
Sealey RS1	300A	8m 10s	4m 30s	9kg	Yes	Yes	No	No	No	No	£130
Hilka RAC	10Ah/400A	2m 30s	n/a	5kg	Yes	Yes	No	No	No	No	£35
Ring RPP160	17Ah	6m 0s	2m 45s	8.5kg	No	Yes	Yes	No	No	Yes	£105
Ring RPP170	17Ah	5m 45s	2m 30s	9kg	No	Yes	Yes	Yes	200W	Yes	£135
Ring RPP265	33Ah	10m 0s	5m 15s	17kg	No	Yes	Yes	No	300W	Yes	£150
Sealey Li 405A	405A	1m 30s	n/a	1.2kg	No	No	No	No	No	Yes	£160
Ring Li RPP900	230A	1m 15s	n/a	1kg	No	No	Yes	No	No	Yes	£85

*Average online prices



www.thehulltruth.com

Battery gassing

To recharge a nominal 12.6V battery, you have to apply a greater voltage to force the current backwards. This voltage is typically 1.0-1.5V above the level of the battery. As the end of the charge cycle is reached, to completely recharge the battery, this voltage rises still further.

When it passes 14.4V the acid starts to break down, releasing hydrogen gas at the negative plate and oxygen at the positive plate. This is often incorrectly called boiling, as what is being heard are the bubbles of gas forming at the plates.

In a wet cell, these bubbles rise through the acid and escape above the plates, then out into the atmosphere. In the meantime, the level of the acid gradually goes down. If the rising gases collect, either in the case or in the space above, they can form an explosive mixture. Hydrogen and oxygen are highly reactive, and will recombine if the mixture is between 4-70%

hydrogen and a spark is introduced. This explosion must not be underestimated. If it takes place over the plates, it will blow the top off the case. If it is in a battery compartment, I have seen a radio battery room on a ship where a steel watertight door was blown clean off its hinges. Likewise, in the battery store in my boatyard, when the engineer came in one Monday morning and disconnected the charging clips, the resulting spark triggered an explosion which blew the roof off the store.

In a gel battery, the bubbles still form at the plates, but as they are forced slowly through the gel they recombine. Any that reach the top are prevented from escaping by sealed caps.

If the plates have failed or there is serious over-voltage, the vents will release gas slowly, but then the battery is finished. Similarly with AGM, the gases recombine so none are given off to the compartment.

Extra features

As previously stated, some of the units come with useful extra features. The first is a 12V outlet socket which allows you to use the starter as a power pack to run anything that plugs in with a cigarette lighter plug, and the next is a USB charging outlet (circled in photo). Most units will have a light – important if you're connecting the leads in a dark engine space – and some will have a compressor, but this is only high-pressure, so it's useful for pumping up your trailer or car tyres, but not for inflating the dinghy. However, a cheap inflator will plug into the socket, serving the same purpose.

Some will have a 230V inverter outlet, making the unit very versatile but only giving 200-300W power. Also, beware that some bucket shop units may give a very 'dirty' AC waveform that will damage delicate equipment.

The units varied widely in the thickness and length of the supply cables. Thicker, shorter cables have less voltage drop so these will give better performance, but extra length makes them more convenient. However, the most important feature to note is whether the crocodile clips are permanently live or not. In some of the cheaper models the clips are live – ie with 12V always connected across them – so when you connect them to the battery there will be a spark as the second clip touches the battery terminal. This could ignite hydrogen gas inside the case or in the compartment.

The instructions with these units tell you not to connect the second clip directly to the battery, but instead to the car's engine block or chassis. This means that any spark will be away from the battery. However, in most boats the engine will be too far from the battery, or on the other side of a bulkhead. You may find the terminal on the back of the battery master

switch, but this will only reduce the risk of an explosion within the battery, not within the compartment. If you buy one of these, ensure the engine space is well ventilated first, and that the battery caps have been opened. The

better models either have internal circuitry that only lets the current flow after the clip has been connected, or an on/off switch serving the same purpose.



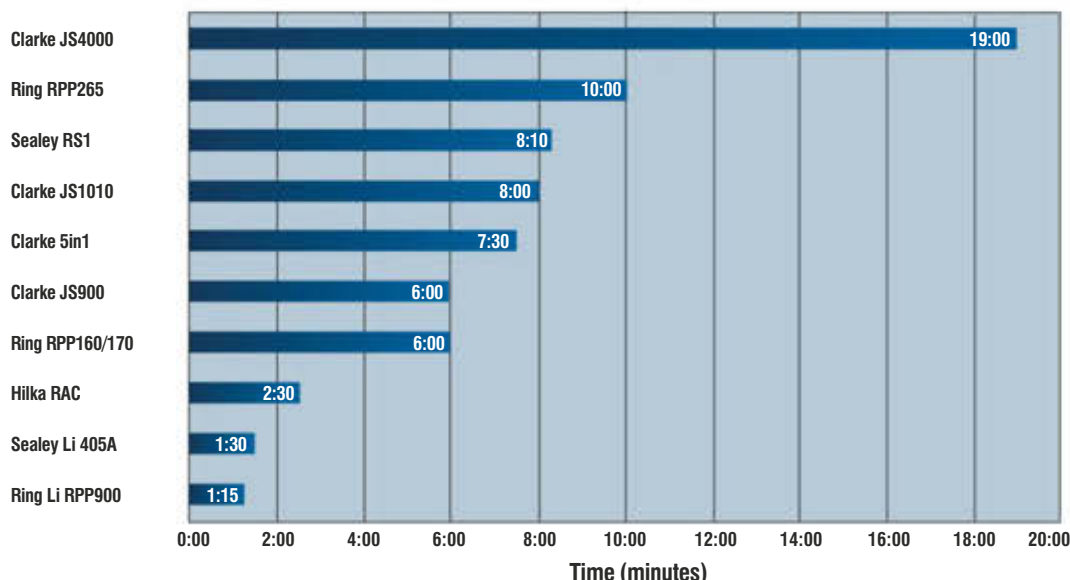
PBO verdict

Overall, we were impressed. Most units divide into approximately 17Ah or 35Ah. The 17Ah units all gave 1kW for at least 5 minutes, making them ideal for a 10-20hp diesel or a 2,000cc car. The 35Ah units would crank your 40-50hp for at least 5 minutes. The 10Ah RAC unit may be too small for your boat, but at 5kg and £35 would be useful back-up in a small car.

Similarly, the two lithium units were probably not appropriate for boat use, and again in fairness the makers did suggest this might be the case, but we still asked them to send them along for us to look at: and at 1kg each, they would sit in the glovebox of a car for emergency use.

The numbers give you the information you require to make a decision. For sheer power the Clarke JS4000 wins out, and of course this would also start a larger engine, up to 85hp. If you want the extras, then the Clarke 5 in 1 and the Ring RPP170 are neck-and-neck, while for a basic 1kW starter the Clarke JS900 offers the best value: it's just shame about its live leads.

Tested cranking time for a 10-20hp diesel



THE 2015 MARINA VISITORS' PRICE GUIDE

**302
MARINA
LISTINGS**

Our handy guide to 302 visitor berth listings from coastal marinas offering cruising sailors a warm welcome – see our online version for full details about local attractions and special offers at: www.pbo.co.uk/marina-guide



Shamrock Quay



Preston Marina



Penmarlam Quay



Ardfern Yacht Centre



Penarth Quays Marina



Stornoway Harbour

Now in its seventh year, PBO's unique marina visitors' price guide aims to showcase the coastal marinas and harbours offering overnight berthing around the United Kingdom, Channel Islands and Northern Ireland. With comparative prices and details of facilities for 302 locations, we hope this helps cruising sailors to plan a few nights ashore during this summer's adventures.

Criteria

We only list walk-ashore visitor berths with mast-up access from the coast. In order to compare the many differing pricing structures, we've worked out an average per-metre price (including VAT) based on quotes for yachts of 7m, 10m and 13m LOA. To help you to plan your access we give the Mean Low Water Springs (MLWS) depth of water at the pontoon and in the approaches. Drying marinas are listed as zero depth – be sure to check the tides!

What's new?

Many improvements were reported this year, such as Bembridge Harbour's new 24/7 live-feed tide height data, recording the height of water at the entrance channel bar, updated every 60 seconds and displayed on the harbour website and at the berthing office.

One of the most important aspects for visiting sailors is the prospect of a hot shower ashore! Southsea Marina (Premier) is celebrating new luxury berth holder and visitor amenities this year.

New shower, toilet and laundry facilities are also being opened at Girvan Harbour, at the Kyle of Lochalsh pontoons and at Mallaig Marina later this summer.

Port Ellen Marina recently celebrated the completion of 20 new berths, thanks to a Coastal Communities Fund grant.

The official opening of the new Scalloway Community Pontoon was held in April 2015.

Milford Marina's completed multi-million-pound lock gate investment means cruisers can sail

access the marina with even greater ease.

Every year, the PBO marina guides aim to improve. Gravesend and Insworke Mill Quay marinas are among the new 2015 visitor listings – if you know of a missing marina that fits our criteria, please contact us so that we can include it online and in 2016.

Extra details online

Details about local attractions that could tempt sailors to each marina, from idyllic locations, bustling city centre attractions, whisky distilleries in Scotland and Viking trails in the Shetland Isles – plus special price deals and services offered by the marinas – can be found at the revamped PBO website, along with photos, Facebook and Twitter links.

For more information please visit www.pbo.co.uk/marina-guide

Price table notes

- Rates are for the 2015 season
- Prices are the average per metre (based on prices for 7m, 10m and 13m yachts)
- All prices include VAT where applicable
- Y = yes, S = some berths, N = no
- WiFi: Y = at berth, O = onsite, N = no
- For services: < = within a mile
- Drying heights represented by 0
- For depths: > = greater than, < = less than
- Where the approach depth is considerably less than the berth depth, it may be the marina has a sill or lock – please check with the marina operator
- For annual berthing prices see PBO's April 2015 issue

Scotland (including Orkney)

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Anstruther Harbour	2.87	0	0	11,16	01333 310836	YY	YY	NN	NN	<N	<<
Arbroath Harbour	2.35	2.5	1	11	01241 872166	YY	YY	YN	Y<	<<	Y<
Ardfern Yacht Centre	2.30	5	5	80	01852 500247	YY	YY	YY	YN	YY	<<
Ardglass Marina	2.31	2.5	2.6	37,80	02844 842332	YS	YY	YO	<<	<<	<<
Ballachulish Marina	1.50	3	6	6	07570 014733	YY	YY	NO	<<	<N	<<
Banff Harbour Marina	2.43	1.8	0.8	12	01261 815544	YY	YY	YN	<<	<<	<<
Bowling Basin, Forth & Clyde Canal	3.40	1.8	1.8	80	01389 877969	YY	YY	YO	Y<	<N	<<
Caley Marina	1.75	2.4	2.4		01463 236539	YY	YY	NY	Y<	<Y	<<
Campbeltown Marina	2.26	3	4	13	07798 524821	YY	YY	YN	Y<	Y<	YY
Clyde Marina	2.65	4.5	10	80	01294 607077	YY	YY	YY	Y<	YY	YY
Craobh Marina	2.46	6.5	3.5	37,80	01852 500222	SS	YY	YY	YN	YY	YY
Crinan Canal	2.25	2.4	2.4	74	01546 603210	YY	YY	NO	NN	<<	<<
Dunstaffnage Marina	2.48	5	5	37	01631 566555	YY	YY	YO	Y<	YY	YY
Eyemouth Harbour	2.33	1.2	2.4	12	01890 752494	SS	YY	YY	Y<	<Y	YY
Gairloch Harbour	1.90	3.5	10	12	01445 712140	YY	YY	NN	Y<	<N	YY
Girvan Harbour	2.50	2	1	12	01465 713648	SS	YY	YN	<<	<Y	YY
Helmsdale Harbour	1.90	1	1	13	01431 821692	YY	YY	NN	YN	<N	YY
Holy Loch Marina	2.20	6	20	80	01369 701800	YY	YY	YO	YY	YN	YY
Inverness Marina	2.50	3	3	12	01463 220501	YY	YY	YY	Y<	<<	<<
James Watt Dock Marina	2.30	5.1	8	80	01475 729838	YY	YY	YY	YY	Y<	<<
Kinlochbervie Harbour	1.76	4	7	14	01971 521235	YY	YY	YO	Y<	<Y	<<
Kip Marina	2.35	3.4	3.5	80	01475 521485	YY	YY	YY	Y<	YY	Y<
Kirkcudbright	1.71	3.5	0	12,16	01557 331135	YY	YY	YN	<<	<<	YY
Kirkwall Marina	2.12	3	5	14	01856 871313	YN	YY	NY	Y<	<<	<<
Kyle of Lochalsh Pontoon	2.00	3	6	11	01599 534306	YY	YY	YN	YY	YY	YY
Largs Yacht Haven	3.00	3	3	80	01475 675333	YY	YY	YY	YY	YY	YY
Lochaline Harbour	2.35	6.7	2.1	80	07583 800500	YY	YY	YY	<<	<N	<<
Lochinver Harbour	1.90	5	8	12,16	01571 844265	YY	YY	YO	Y<	<Y	NY
Lossiemouth Marina	2.13	1.5	1.8	12,16	01343 813066	YY	YY	YY	<<	<N	Y<
Mallaig Marina	2.40	2	3	9,37	07824 331031	SS	YY	YY	<<	<<	<<
Nairn Harbour	1.87	0.5	0.5	9,16	01667 456008	SY	YY	NN	YY	YN	YY
Oban Marina & Yacht Services	2.35	>10	>10	80	01631 565333	YY	YY	YO	<<	YY	YY
Peterhead Bay Marina	1.75	2.4	2.3	14	01779 477868	YY	YY	YO	Y<	YN	<<
Port Bannatyne Marina	2.00	2.5	2.5	37	01700 503116	YY	YY	YY	NN	YY	<Y
Port Edgar Marina	2.90	2	2	80	01313 313330	YY	YY	YY	Y<	YY	Y<
Port Ellen Marina	1.54	3	4.5		01496 302071	YY	YY	YN	<<	Y<	YY
Portavadie Marina	2.50	12	>20	80	01700 811075	SN	YY	YY	YY	YY	YY
Portpatrick Harbour	1.66	2.5	2.5		07565 102096	YY	YY	NN	<N	NN	YY
Rhu Marina	2.60	12	12	37,80	01436 820238	YY	YY	YY	YN	YY	Y<
Sandpoint Marina	1.28	1.5	2		01389 762396	YY	YY	NN	Y<	<N	<<
Seaport Marina	1.07	4.1	1.4	74	01463 725500	YY	YY	YO	Y<	<<	<<

Lochinver

Stornoway

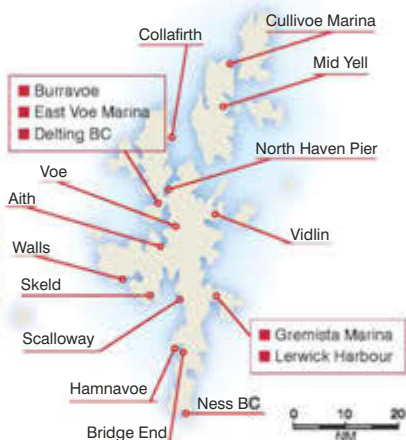
Gairloch

Eyemouth

Clyde

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Stornoway Harbour	2.30	3	3	12,16	01851 702688	YY	YY	YY	Y<	<Y	<<
Stranraer Harbour	1.61	3	2.7		01776 707500	YY	YY	YN	<<	<N	<<
Stromness Marina	2.12	3	5	14	01856 871313	YY	YY	YY	Y<	<<	<<
Tarbert Harbour	2.50	8	8	14	01880 820344	NN	YY	YY	YN	YY	<<
Tayport Harbour	1.40	0	1		01382 553799	YY	YN	NN	NN	<N	YY
Tobermory Harbour	2.46	6	10	12	07917 832497	YY	YY	YY	Y<	YY	YY
Troon Yacht Haven	2.77	3	2.7	37,80	01292 315553	YS	YY	YY	Y<	YY	Y<
Westray Marina	2.12	3	5	14	01856 871313	YY	YY	NN	<<	<N	<<
Whitehills	2.10	1.5	1.5	14,16	01261 861291	YY	YY	YY	Y<	Y<	YY
Wick Marina	2.29	2.3	2.3	14,16	01955 602030	YY	YY	YO	Y<	<Y	Y<

The Shetland Islands



Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WIFI	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Aith Marina	1.10	2.4	1.2	16	01595 810378	YY	YY	NN	YN	NN	NY
Bridge End Marina, South Voe	0.64	4	4		01595 859332	YY	YY	NN	YY	NN	NY
Burravoe Marina	1.07	1.7	2.5		01957 722315	YY	YY	YN	YN	NN	N<
Collafirth Marina	Free	1.8	8		01806 533288	YY	YY	YN	NN	NN	NY
Cullivoe Marina	1.21	1.3	1.2		01957 744262	NS	NN	NN	<<	<N	N<
Delting Boating Club Marina	1.07	2	2	6	01806 522524	YY	YY	YO	Y<	N<	<<
East Voe Marina	0.53	4.5	4	12	07769 571022	YY	NN	<<	NN	<<	<<
Fair Isle	Free	4	20		01595 760222	YN	YY	NN	NN	NN	<N
Greimista Marina (Lerwick)	1.36	1.8	3	12	01595 697146	YY	NN	NY	N<	<<	<<
Hamnavoe Marina	0.53	3	4		01595 881253	YY	YN	NN	<<	NN	NY
Lerwick Harbour	0.90	6	9	12,16	01595 692991	YY	YY	YO	<Y	<Y	YY
Mid Yell Marina	1.07	1.9	2		01957 702317	YY	NN	NN	<<	NN	<<
Ness Boating Club	0.75	1	1	16	07778 460016	NN	YN	NO	<<	NN	N<
North Haven Pier	1.23	4.5	5		01595 760222	YN	NN	NN	NN	NN	<<
Scalloway	1.28	7	8.7	12,16	01595 744221	SS	YY	NO	YN	N<	YY
Scalloway Boating Club	1.60	2.5	9		01595 880409	YY	YY	YN	<<	Y<	<Y
Skeld Marina	1.07	2.5	2.5		01595 860287	YY	YY	YY	Y<	<N	NN
Vidlin Marina	1.07	1.7	1.7	11	01806 577326	YY	YN	NN	NN	NN	NY
Voe Marina	0.53	3.7	3.7		01806 588392	YY	YN	NN	<<	NN	Y<
Walls Marina	1.07	2	1.5		01595 809311	YY	YN	NY	<<	N<	NY

The North East

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WIFI	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Amble Marina	2.50	2.5	0	80	01665 712168	YY	YY	YY	Y<	YY	<Y
Bridlington Harbour	2.13	0	0	12,16	01262 670148	SS	YY	NO	Y<	<Y	Y<
Hartlepool Marina	1.95	5	0.8	37,80	01429 865744	YY	YY	YO	Y<	Y<	YY
Hull Marina	2.80	4	1	80	01482 609960	YY	YY	YO	YN	YY	Y<
Humber CA Marina	2.00	2.5	2	74	01472 268424	YY	YY	YO	Y<	<N	<<
Newcastle City Marina	2.28	5.2	5.2	12	01912 211348	YY	YY	NN	N<	NN	YY
Royal Northumberland YC	2.05	4.4	6.8	12	01670 353636	YY	YY	NY	NN	NN	Y<
Royal Quays Marina	2.55	7	3.5	80	01912 728282	YY	YY	YY	YY	YN	<<
Scarborough Harbour	2.77	2	1.9	12	01723 373530	YY	YY	YY	YY	Y<	<<
South Ferriby Marina Ltd	0.73	2	2		01652 635620	SS	YY	NN	YN	Y<	<<
St Peters Marina	2.00	2	0	80	01912 654472	YY	YY	YY	<<	<<	Y<
Sunderland Marina	2.36	2	2	37	01915 144721	YS	YY	NN	Y<	NN	Y<
Whitby Marina	2.79	2	2.4	11	01947 600165	YY	YY	YY	Y<	<Y	<<



The North West

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WIFI	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Douglas Marina	3.00	2.5	0	12	01624 687543	SS	YY	NO	<<	<Y	<<
Douglas Marina	1.05	1.8	0		01772 812462	SN	YY	NN	Y<	<Y	<<
Fleetwood Haven Marina	2.47	3	1.5	12	01253 879062	YY	YY	YO	YN	YN	<<
Glasson Basin Marina	1.33	3	0		01524 751491	YY	YY	YN	YN	YY	<<
Liverpool Marina	2.20	5	2.5	37	01517 076777	SS	YY	YO	Y<	<Y	Y<
Maryport Marina	1.60	5.6	0	12,16	01900 814431	YY	YY	YY	Y<	YN	<<
Peel Marina	3.00	2.5	0	12,16	01624 688612	YY	YY	NO	Y<	<N	<<
Preston Marina	1.07	4	0	16	01772 733595	YY	YY	YO	Y<	YY	Y<
Whitehaven: Queens & Lowther	2.50	7	0	12	01946 692435	YY	YY	YY	Y<	YN	<<
Whitehaven: West Strand	2.00	7	0	12	01946 692435	YY	YY	YO	Y<	YN	<<



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Arbroath harbour

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Wales

Port Dinorwic



Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Cardiff Marina	2.40	3	1.8	37	02920 396078	YY	YY	YO	Y<	<<	<<
Conwy Quays Marina	2.75	2.5	0.5	80	01492 593000	YY	YY	YY	YY	YY	YY
Deganwy Quays Marina	2.75	2.5	0.5	80	01492 576888	YY	YY	YY	YY	<<	Y<
Hafan Pwllheli	2.47	2.5	0.6	80	01758 701219	YY	YY	YY	YY	YY	Y<
Holyhead Marina	2.60	<4.5	>3.5	37	01407 764242	YY	YY	YO	Y<	YY	YY
Milford Marina	3.50	>7	1.1	14	01646 696312	YY	YY	YY	YN	YY	Y<
Neyland Yacht Haven (Lower)	2.80	2	2	37,80	01646 601601	YY	YY	YY	YY	YY	Y<
Neyland Yacht Haven (Upper)	2.20	2	2	37,80	01646 601601	YY	YY	YY	YY	YY	YY
Penarth Quays Marina	2.60	3.3	2	80	02920 705021	YY	YY	YY	YY	YY	Y<
Port Dinorwic	2.13	2	0	80	01248 671500	YY	YY	YY	YN	YN	Y<
Swansea Marina	2.20	3	3	18,80	01792 470310	SS	YY	YY	YN	YY	YY
Victoria Dock	2.36	2.2	0	16,80	01286 672346	YY	YY	YO	<<	<Y	Y<
Y Lanfa (Aberystwyth)	3.00	2.2	0.4	80	01970 611422	YY	YY	YY	Y<	YY	<<

Holyhead

Conwy

Conwy Quays
Deganwy Quays

Port Dinorwic

Victoria Dock

Hafan Pwllheli

Aberystwyth

Penarth Quays

Hafan Pwllheli

Neyland Yacht Haven (Upper)
Neyland Yacht Haven (Lower)

Swansea

Milford Marina

Cardiff

0 10 20
NM

The South West

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Bridport Harbour (West Bay)	2.26	1.5	1.5	11,16	01308 423222	SS	YY	YN	<<	<Y	YY
Bristol Harbour	1.75	5.5	0	14,73	01179 031484	SS	YY	NN	<N	N<	<<
Bristol Marina	2.42	3	3	73	01179 213198	YY	YY	YY	Y<	YY	<<
Brixham Marina	3.78	2.5	2.5	80	01803 882929	YY	YY	YY	YN	Y<	Y<
Dart Harbour & Navigation Athy	1.35	>5	>5	11	01803 832337	SS	YY	YY	YN	N<	<<
Dart Marina Yacht Harbour	3.00	2	1.5	80	01803 837161	YY	YY	YY	<<	Y<	Y<
Darhaven Marina	3.00	3	3	80	01803 752242	YY	YY	YY	<<	YY	<<
Dolphin Haven	1.72	1.3	5		01803 842424	SS	YY	NN	<<	<Y	<<
Exmouth Marina	4.23	1.5	1	14	01395 269314	YY	YY	NN	YN	NY	YY
Falmouth Haven Marina	2.80	2.5	1	12	01326 310991	YS	YY	YY	YY	<<	<<
Falmouth, Inner Basin (Premier)	3.25	0	1.5	80	01326 316620	YY	YY	YY	YY	YY	YY
Falmouth, Outer (Premier)	3.25	2	1.8	80	01326 316620	YY	YY	YY	Y<	YY	Y<
Insworke Mill Quay Marina	1.49	0	0		07967 645205	YY	YY	YY	NN	N<	<<
King Point Marina	3.25	2.5	2.5	12	01752 424297	YY	YY	YY	<<	YN	Y<
Lyme Regis Harbour	2.26	1.4	1.4	14	01297 442137	YN	YY	NN	<Y	Y<	<<
Mayflower Marina	3.15	6	6	80	01752 556633	YY	YY	YY	YY	YY	YY
Multihull Centre	1.45	0	0		01752 823900	SS	YY	YN	NN	YY	<<
Mylor Yacht Harbour	3.50	2	2	37,80	01326 372121	YY	YY	YY	YY	YY	YY
Noss Marina	2.98	4	4	80	01803 839087	YY	YY	YY	<<	YN	N<
Penmarium Quay	2.25	2.5	7	12	01726 832471	SN	YY	NY	<<	YY	Y<
Plymouth Yacht Haven	3.25	>2.2	>2.2	80	01752 404231	YY	YY	YY	Y<	YY	YY
Port Pendennis Marina	3.25	4.5	3.5	80	01326 211211	YY	YY	YY	<<	Y<	<<
Portishead Quays Marina	2.78	7	0	80	01275 841941	YY	YY	YY	YY	YY	YY
Queen Anne's Battery	3.78	2.5	2.5	80	01752 671142	YY	YY	YY	YY	YY	YY
Royal William Yard Harbour	3.25	1	1.5	13	01752 659252	YY	YN	NO	<<	<N	YY
Salcombe Harbour Authority	2.30	1.5	1.5	14	01548 843791	SS	YY	YY	YY	YY	YY
Sharpness Marine	1.71	<3.5	<3.5		01453 811476	YY	YY	YN	<<	YY	N<
Southdown Marina	2.66	0	1.8		07815 005474	YY	YY	YY	<N	<<	Y<

Falmouth

Sharpness Marine

Bristol Marina
Bristol Harbour

Portishead Quays

Weston-super-Mare

Uphill Boat Centre

Watchet Harbour

Queen Anne's Battery
Royal William Yard Harbour
Sutton Harbour Marina
Mayflower Marina
Plymouth Yacht Haven

Turf Basin
W Trout & Son

Lyme Regis

Bridport

Mylor

Exeter

Exmouth

Torquay Marina
Torquay Town Dock

Brixham Marina
Dolphin Haven

Plymouth

Dartmouth

Salcombe

Penmarium Quay

Mylor Yacht Harbour

Falmouth (inner)
Falmouth (outer)
Falmouth Haven
Port Pendennis Marina

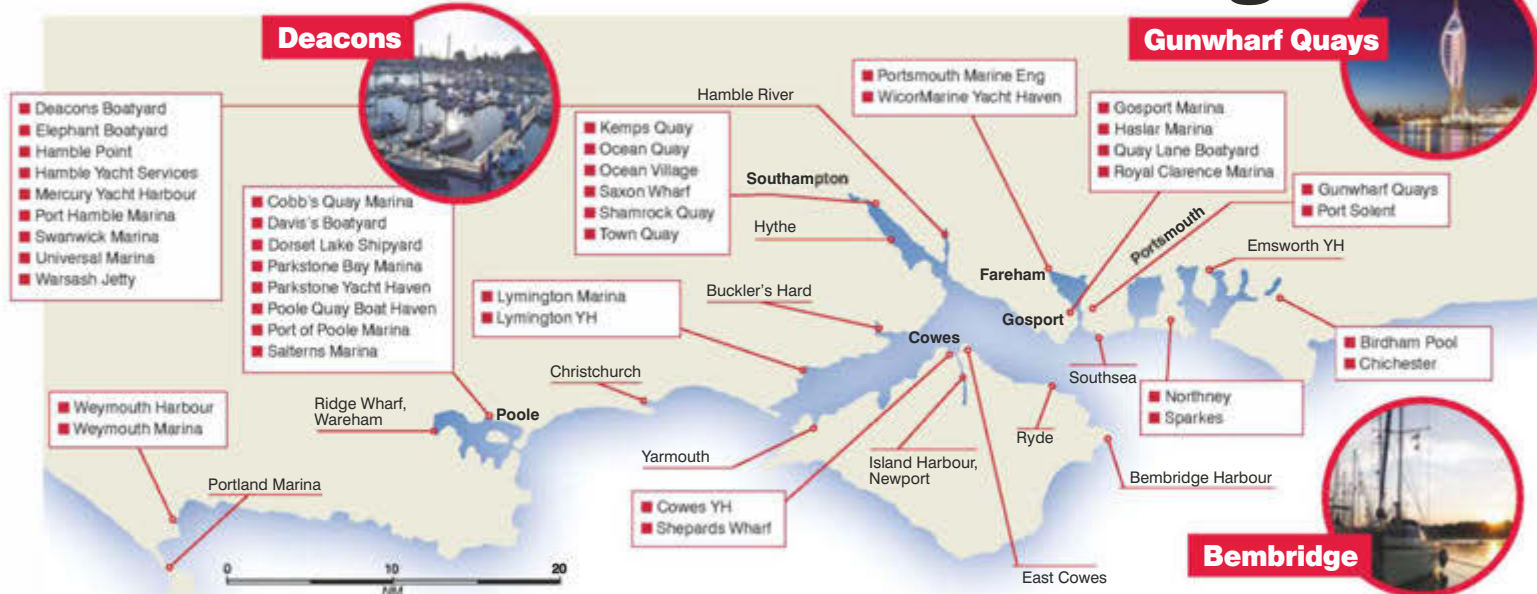
Falmouth

Torpoint Yacht Harbour
Multihull Centre
Insworke Mill Quay
Southdown Marina

Dart Marina Yacht Harbour
Darhaven Marina
Noss Marina
Dart Harbour & Navigation Athy

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NM

South Coast and the Isle of Wight



Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Bembridge Harbour	3.00	2	0.4	80	01983 872828	YY	YY	YO	NN	<<	<Y
Birdham Pool Marina	2.45	1.9	1	80	01243 512310	SS	YY	YY	YY	<<	<<
Buckler's Hard Yacht Harbour	3.05	2.5	1		01590 616200	YY	YY	YY	YY	YY	<Y
Chichester Marina (Premier)	3.20	1	0.8	80	01243 512731	YY	YY	YY	YY	YY	YY
Christchurch Marine	2.83	1.1	0.4		01202 483250	YY	YY	NN	YN	YY	<<
Cobb's Quay Marina	3.78	2.5	2.5	80	01202 674299	YY	YY	YY	YY	YY	YY
Cowes Yacht Haven	3.05	3.8	5	80	01983 299975	YY	YY	YY	<<	YY	Y<
Davis's Boatyard	3.13	>2.5	>2.5		01202 674349	YY	YY	NY	YY	YY	YY
Deacons Boatyard	3.50	2.3	3		02380 402253	YY	YY	NY	<<	<Y	<Y
Dorset Lake Shipyard	4.51	2	2	37	01202 674531	YY	YY	NO	NN	NN	Y<
East Cowes Marina	3.10	3.5	2	80	01983 293983	YY	YY	YY	<<	Y<	Y<
Elephant Boatyard	1.98	3	3		02380 403268	YY	YN	NN	<<	<<	Y<
Emsworth Yacht Harbour	2.80	<2	0		01243 377727	YY	YY	YY	Y<	YY	Y<
Gosport Marina (Premier)	3.20	3.5	5	80	02392 524811	YY	YY	YY	YY	YY	Y<
Gunwharf Quays Marina	3.75	5.5	5.5	80	02392 836732	YY	YY	YY	<<	<<	YY
Hamble Jetty	1.75	1.5	3	68	01489 576387	NN	NN	NO	<<	<<	Y<
Hamble Point Marina	3.78	2.5	2.5	80	02380 452464	YY	YY	YY	<<	<Y	Y<
Hamble Yacht Services Ltd	3.52	4	4	80	02380 454111	YY	YY	NO	<<	<<	Y<
Haslar Marina	3.10	6	6	80	02392 601201	YY	YY	YY	<<	Y<	YY
Hythe Marina Village	3.78	2.5	2.5	80	02380 207073	YY	YY	YY	YY	YN	Y<
Island Harbour	2.70	1	1.8	80	01983 539994	YY	YY	YY	<<	YY	YY
Kemps Quay	2.98	2.3	1		02380 632323	YN	YY	NN	<N	<<	<<
Lymington Marina	4.08	2.5	3	80	01590 647405	YY	YY	YY	YY	Y<	Y<
Lymington Yacht Haven	3.93	3	2.5	80	01590 677071	YY	YY	YY	YY	YY	YY
Mercury Yacht Harbour	3.78	2.5	3	80	02380 455994	YY	YY	YY	<<	YY	Y<
Northney Marina	3.78	2.5	2.5	80	02392 466321	YY	YY	YY	YN	Y<	<Y
Ocean Quay Marina	2.17	2.5	3		02380 235099	YY	YY	NO	<<	Y<	<<
Ocean Village Marina	3.78	2.5	2.5	80	02380 229385	YY	YY	YY	<<	YN	YY

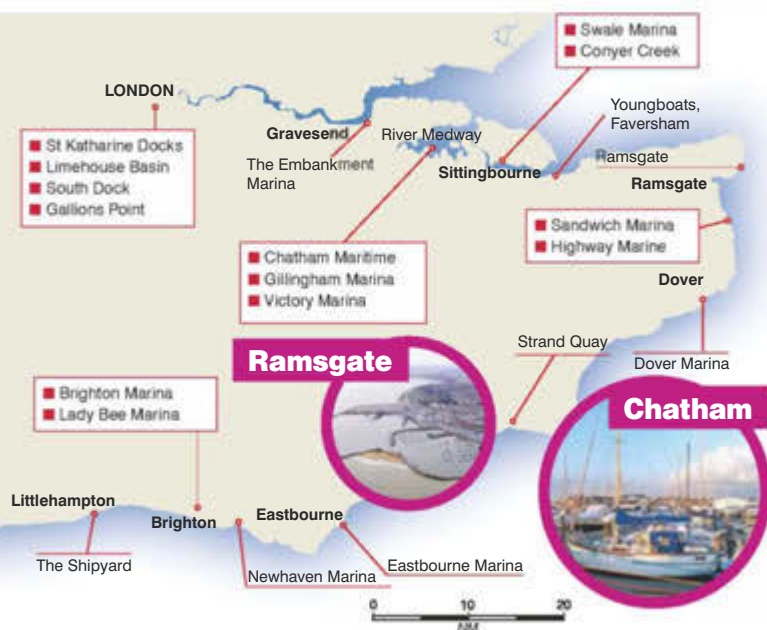
Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Parkstone Bay Marina	4.00	1	0.5	37,80	01202 747857	YY	YY	YY	YY	<<	Y<
Parkstone Yacht Haven	3.32	2	2	37	01202 738824	YY	YY	YY	Y<	YY	YY
Poole Quay Boat Haven	3.27	4.5	4.5	80	01202 649488	YY	YY	YY	<<	<<	<<
Port Hamble Marina	3.78	2.5	2.5	80	02380 452741	YY	YY	YY	YY	YY	Y<
Port of Poole Marina	3.07	6	8	80	01202 649488	YY	YY	YY	<<	<<	<<
Port Solent Marina (Premier)	3.20	2.5	2.3	80	02392 210765	YY	YY	YY	YY	YY	YY
Portland Marina	2.95	5	5	80	01305 866190	YY	YY	YY	YY	YY	YY
Portsmouth Marine Engineering	2.19	0	0		01329 232854	YS	YY	NO	NN	N<	<<
Quay Lane Boatyard	0.54	0	0		02392 524214	YY	YN	NN	<<	YY	Y<
Ridge Wharf Yacht Centre	2.82	1.5	1.1		01929 552650	YY	YY	YY	YY	YY	<<
Royal Clarence Marina	2.75	5.2	5.2	80	02392 523523	YY	YY	YY	<<	<<	Y<
Ryde Harbour	1.75	0	0	80	01983 613879	YN	YY	YN	<<	<<	YY
Salterns Marina	3.50	2	2	37,80	01202 709971	YY	YY	YY	YY	YY	YY
Saxon Wharf	3.78	2.5	2.5	80	02380 339490	YY	YY	YY	<<	<<	<<
Shamrock Quay	3.78	2.5	2.5	80	02380 229461	YY	YY	YY	<<	YY	Y<
Shepards Wharf Marina	2.90	3	3	80	01983 297821	SS	YY	NY	<<	Y<	Y<
Southsea Marina (Premier)	3.20	2.5	1.3	80	02392 822719	YY	YY	YY	YY	YY	YY
Sparkes Marina	3.78	2.5	2.5	80	02392 463572	YY	YY	YY	YY	YN	YN
Swanwick Marina, Hamble	3.72	2	2	80	01489 884081	YY	YY	YY	YY	YY	Y<
The Hayling Yacht Co	1.82	2	4		02392 463592	YS	YY	YY	NN	NY	YN
Town Quay Marina	3.20	3.5	9	80	02380 234397	YY	YY	YY	<<	Y<	Y<
Universal Marina	3.28	3	>2.5	80	01489 574272	YY	YY	YY	<<	YY	Y<
Warsash Jetty	2.00	1.6	4	68	01489 576387	SY	YN	NO	<<	<<	<<
Weymouth Harbour	2.50	3.5	5	12	01305 838423	YS	YY	YY	Y<	<Y	Y<
Weymouth Marina	2.95	2	2	80	01305 767576	YY	YY	YY	<<	<<	<<
WicorMarine Yacht Haven	1.50	2.2	>3		01329 237112	SS	YY	NO	Y<	YY	YY
Yarmouth Harbour	3.08	2	2	68	01983 760321	SS	YY	YY	YY	Y<	<<

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Beaucette Marina	2.40	9	0	80	01481 245000	YY	YY	YY	Y<	Y<	Y<
Elizabeth Marina	3.15	4	0	14	01534 447708	YY	YY	YY	YY	<<	YY
St Helier Marina	3.15	3	2	14	01534 447708	YY	YY	YY	YY	YY	YY
St Peter Port Marina	2.64	1.8	2	12,18	01481 720229	YS	YY	YY	YY	YY	YY
Victoria Marina	2.59	1.8	2.2	80	01481 725987	YS	YY	YY	YY	YY	YY

Channel Islands



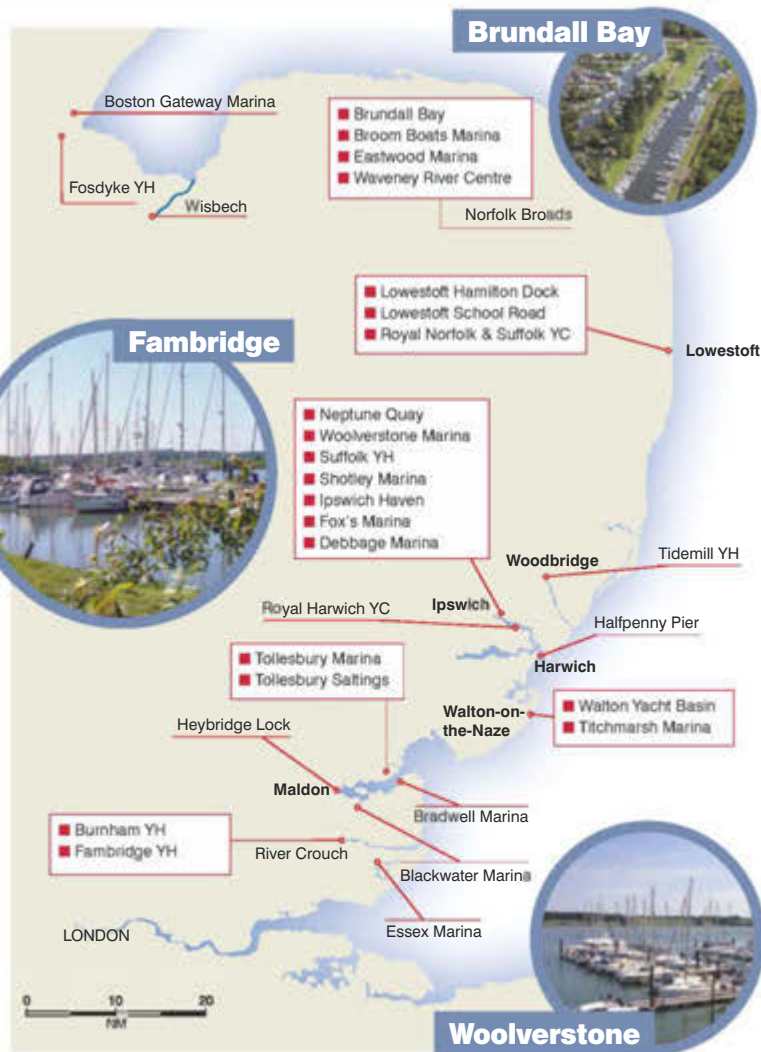
South East



Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Brighton Marina (Premier)	3.20	2	2	80	01273 819919	YY	YY	YY	YY	YY	YY
Chatham Maritime Marina	3.00	2.5	2.5	80	01634 899200	YY	YY	YY	YY	Y<	<Y
Conyer Creek Marina	2.07	0	0		01795 521711	YY	YY	NO	<N	<N	<N
Dover, Granville Dock	2.62	2.5	2.5	80	01304 241663	YY	YY	Y0	Y<	<<	Y<
Dover, Tidal Harbour	2.93	2.5	2.5	80	01304 241663	YY	YY	Y0	Y<	<<	Y<
Dover, Wellington Dock	2.30	3	2.5	80	01304 241663	YY	YY	Y0	Y<	<<	Y<
Eastbourne Marina (Premier)	3.09	2.5	2	17	01323 470099	YY	YY	YY	YY	YY	YY
Gallions Point Marina	2.65	3	0	37,80	02074 767054	YY	YY	NO	<<	YN	<<
Gillingham Marina	2.71	2.4	3.2	80	01634 280022	YY	YY	YY	YY	YY	Y<
Gravesend Pontoon	2.77	2.5	6		07949 750236	YY	NN	NN	<<	<N	Y<
Highway Marina	1.49	1.5	0.5	8	01304 613925	YY	YY	NN	<<	YY	YY
Lady Bee Marina	2.92	2.5	1.8	14	01273 596880	YY	YY	NY	<<	YY	<<
Limehouse Basin Marina	3.60	2.4	0.5	80	02073 089930	YY	YY	NN	<<	<<	<Y
Newhaven Marina	2.26	0	4.5	12,80	01273 513881	YY	YY	NN	Y<	<Y	YY
Ramsgate	2.93	3.1	3.1	14,80	01843 572100	YY	YY	Y0	YY	<Y	Y<
Sandwich Marina	2.13	1.5	0		07974 754558	YY	YY	NN	<<	Y<	<<
South Dock Marina	3.24	3	0	14,37	02072 522244	YY	YY	YN	<<	<<	<<
St Katharine Docks Marina	5.84	5	5	80	02072 645312	YY	YY	Y0	<<	NN	YY
Strand Quay	1.98	0	0	14	01797 225225	YY	YY	NN	<<	<N	YY
Swale Marina	1.77	0	0		01795 521562	YY	NO	YN	YN	YN	<N
The Embankment Marina	3.64	2	0		01474 535700	SS	YY	NO	Y<	YN	<<
The Shipyard	2.65	3	1		01903 713327	YY	YY	NY	<<	<<	<N
Victory Marina	2.79	5	5		07785 971797	YY	YN	NN	<<	<<	Y<
Youngboats	1.07	0	0		01795 536176	SS	YY	NN	NN	NY	<<

The East Coast

Marina name	Price per metre (£)	Maximum berth depth (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WiFi	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Blackwater Marina	1.60	0	0	80	01621 740264	YY	YY	NO	Y<	YN	YY
Boston Gateway Marina	0.82	1.5	0	12	07480 525230	YY	YY	NN	<<	<N	Y<
Bradwell Marina	1.95	2.5	0.3	37,80	01621 776235	YS	YY	YY	YY	YN	Y<
Broom Boats Marina	1.47	2	3		01603 712334	YY	YY	YY	YY	YN	NN
Brundall Bay Marina	1.71	1	2		01603 717804	YY	YY	YY	NN	YY	Y<
Burgh Castle Marina	2.13	1	0	98	01493 780331	SS	YY	YN	<<	NN	<<
Burnham Yacht Harbour	2.72	2.5	3	80	01621 782150	YY	YY	YY	Y<	YY	Y<
Debbage Marina	1.60	0.5	1		01473 601169	YS	YY	Y0	<<	<Y	<<
Eastwood Marina	6.18	0.9	0.9	12	01603 781178	YY	YY	Y0	<<	<N	<<
Essex Marina	2.13	2	>5		01702 258531	YY	YY	YY	YY	YY	Y<
Fambridge Yacht Haven	2.62	1.5	1	80	01621 740370	YY	YY	YY	YY	YY	YY
Fosdyke Yacht Haven	2.28	1.8	0.6		01205 260240	YY	YY	NN	NN	NY	YN
Fox's Marina Ipswich	2.64	2	2	80	01473 689111	YY	YY	NO	Y<	YY	Y<
Halfpenny Pier	1.73	2	2		01255 243030	YN	YY	NN	NN	N<	Y<
Heybridge Lock	1.99	0	0	80	01621 853506	SS	YY	NN	NN	NN	<<
Ipswich Haven Marina	2.50	6.4	5.6	80	01473 236644	YY	YY	Y0	Y<	YY	Y<
Lowestoft Haven, Hamilton Dock	2.42	3	4	80	01502 580300	YY	YY	Y0	<N	<<	<<
Lowestoft Haven, School Road	2.25	4	3	80	01502 580300	YY	YY	Y0	YN	Y<	Y<
Neptune Quay	3.08	7.5	5.2	37,80	01473 215204	YY	YY	NY	YN	YN	YY
Royal Harwich Yacht Club	2.75	2	2.3	77	07742 145994	YY	YY	NO	<<	<<	Y<
Shotley Marina	2.60	2.5	2.4	80	01473 788982	YY	YY	Y0	YN	YY	YY
Suffolk Yacht Harbour	2.70	2	2	80	01473 659465	YY	YY	YY	YY	YY	YY
The Royal Norfolk & Suffolk YC	2.50	3	2	14,80	01502 566726	YY	YY	YY	Y<	Y<	Y<
Tidemill Yacht Harbour	2.94	2.5	0.5	80	01394 385745	YY	YY	Y0	YN	YY	YY
Titchmarsh Marina	2.01	2	1.3	80	01255 672185	YY	YY	Y0	YN	YY	YY
Tollesbury Marina	2.09	2	0	37,80	01621 869202	YY	YY	YY	YN	YY	YY
Tollesbury Saltings Ltd	1.52	0	0		07521 318155	YS	YY	NN	<<	<<	Y<
Walton Yacht Basin	1.92	1.8	0	80	01255 675873	YY	YY	NO	NN	NY	YY
Waveney River Centre	1.07	1.5	2		01502 677343	SS	YY	Y0	YY	YY	YY
Wisbech Yacht Harbour	1.60	1.5	0.5	9,37	01945 588059	YY	YY	YN	Y<	<N	<<
Woolverstone Marina	3.00	2.5	2.5	80	01473 780206	YY	YY	YY	YN	YY	YN



Northern Ireland

Marina name	Price per metre (£)	Maximum draught (m) at MLWS	Depth (m) in the approaches at MLWS	VHF channel	Telephone	Water/Electric	Toilets/Shower	Laundry/WIFI	Diesel/Petrol	Gas/Chandlery	Cafe/Shop
Ardglass Marina	2.31	2.5	2.6	37.80	02844 842332	YY	YY	YO	<<	<<	<<
Ballycastle Marina	2.32	2.4	2.8	80	02820 768525	YY	YY	YY	Y<	<N	YY
Bangor Marina	2.60	3	4	80	02891 453297	YY	YY	YY	YY	YY	<<
Belfast Harbour Marina	1.79	4	5.5	12	02890 553014	SS	YY	YN	<<	<<	<<
Carrickfergus Marina	2.60	2.3	2.3	80	02893 366666	YY	YY	YO	Y<	<<	YY
Coleraine Marina	2.35	3	3	37	02870 344768	YY	YY	NN	YN	<N	<<
Copelands Marina	1.98	0	0		07802 363382	YY	YN	NO	Y<	<N	<<
Foyle Port Marina	1.93	5	6	14	02871 860313	YY	YY	NY	<<	<<	Y<
Glenarm Marina	2.30	3	6	80	02828 841285	YY	YY	YN	Y<	<N	<Y
Kinnego Marina	1.07	2	3	77	02838 327573	YN	YY	YY	<<	YY	Y<
Portaferry Marina	2.15	2.5	2		07703 209780	SS	YY	NO	<<	<N	<Y
Rathlin Island Marina	2.13	2.4	2.8	80	02820 768525	YS	YY	NN	NN	<N	YY
Sandy Bay Marina	2.13	2	2		07849 087729	YS	YY	NN	<<	<N	N<
Seaton's Marina	1.60	2.5	3.5		02870 832086	SS	YY	NO	<<	<N	<<
Strangford Yacht Haven	2.00	2	4		02844 881 222	YY	YY	NN	NN	<N	YY

Seaton's



Belfast



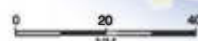
Kilrush Marina

Fenit Harbour and Marina

Dingle Marina

Cahersiveen Marina

Carlingford



Limerick

Cork City Marina

Cork Harbour Marina

The Royal Cork Yacht Club

Castlepark Marina

Kinsale YC Marina

Trident Marina

Atlantic Boating

East Ferry

Cork

Crosshaven Boatyard

Hugh Coveney Pier

Salve Marine

Waterford Marina

Three Sisters (New Ross) Marina

Wexford

Kilmore Quay

Arklow Marina

Dun Laoghaire Marina

Royal St George YC

Wicklow

Greystones Harbour Marina

Poolbeg Marina

Malahide Marina

Howth Yacht Club

DUBLIN

Lough Neagh

Belfast Harbour Marina

Strangford YH

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

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Bangor Marina

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Rathlin Island Marina

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Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

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Belfast Harbour Marina

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Portaferry Marina

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Bangor Marina

Carrickfergus Marina

Glenarm Marina

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Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina

Coleraine Marina

Foyle Marina

Rathmullan Pontoon

Lough Swilly Marina

Ballycastle

Belfast Harbour Marina

Kinnego Marina

Portaferry Marina

Copelands Marina

Bangor Marina

Carrickfergus Marina

Glenarm Marina

Rathlin Island Marina

Seaton's Marina



Sticky situations

Sticky Stapylton draws upon his considerable experience to share some useful seamanship tips with PBO readers

Using an inflatable dinghy

Do you have an inflatable dinghy, and if so, when did you last use it? I recently pulled the dinghy from a charter yacht's stern locker to find it had no seat and two holes in it, each the size of a 10p piece. (Another dinghy, pictured right, had a missing rowlock.) To add insult to injury, the glue in the repair kit was rock-hard, so a trip to the chandlery was necessary to repair the holes.

With yachts based in marinas and sailing from base to another harbour where you can walk ashore, some tenders will rarely see the light of day. It is therefore that much more important that your dinghy is regularly checked. If kept at the bottom of a locker it would be easy for the kedge

anchor or a heavy spare fuel can to be dropped onto the tender, possibly puncturing the fabric.

Using a dinghy may seem a simple affair, but it is worthwhile having some basic rules.

■ Before inflating, tie the dinghy on by the painter – it may get blown away.

■ Secure the dinghy bag too, in case the same might happen.

■ Inflate the dinghy so that it is rigid, but not too rigid; the standard dinghy pump will not over-inflate.

■ Always launch stern first: it will be easier to hold onto the painter.

■ If using an outboard motor, ensure that it is secure before lowering it into the dinghy, and then tie the lanyard onto a secure point in the dinghy.



This dinghy has a missing rowlock

■ Fill the outboard tank on the parent boat, which is more stable.

■ Items to take with you: bailer, oars and rowlocks, anchor and warp, lifejackets (to be worn), torch, dinghy pump, handheld compass, repair kit, handheld flares, handheld VHF radio, spare fuel. (Some may argue

that this is a lot of kit to carry to the pub or restaurant and could well disappear if not secured.

Common sense will tell you which items are appropriate according to the circumstances.)

■ Load the dinghy evenly, and do not take too many crew with you for the weather conditions.

Hooking on

I frequently board boats and find that there are no hook-on points which can be reached from inside the companionway steps. In a heavy sea, I have actually seen someone coming up through the companionway and, failing to hook on, being catapulted by a seriously pitching boat into the backstay aft of the helm. We were lucky that we did not have a split backstay.

The majority of sailors may never be at sea in conditions which warrant hook-on points close to the companionway. But what happens if you get the weather forecast wrong, or if there is a time imperative for getting back to work after a long weekend sailing across the Channel? If fitting jackstays, just be aware that a slack jackstay may well be able to sustain higher loads than one which is fitted taut: read the instructions which

come with your jackstays.

Consider also the pros and cons of webbing straps against wire: the former can degrade in sunlight, and some manufacturers recommend straps are removed at the end

of a passage or day-sail. The latter, meanwhile, can easily roll underfoot and may result in an unnecessary slip.

Whenever possible I always tether a spare strop to a pad eye close to the companionway

steps, and have it positioned so that anyone coming on deck can hook on before coming up. Once the person boarding is in the cockpit, the dedicated strop on the lifejacket can be used to secure the crew, and the spare strop can be placed back over the washboard for anyone else to use. If I am sailing on a boat with large cockpit, I organise the strops so that crew always have the ability to remain hooked on.



There are sufficient pad eyes and strops for crew to be secure anywhere in the cockpit

INSET The spare strop is positioned so that anyone coming on deck can hook on before coming up

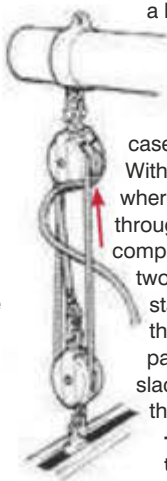
Choking the luff

The sailing expression 'choking the luff' describes a system of preventing movement between two blocks by inserting part of the line which connects them between a sheave of one of the blocks and the line which runs through it. The arrow on the drawing indicates where the fall has been trapped.

This is an essential safety drill when anyone is working on the boom at sea: the mainsheet should not be eased, because the boom will swing and could throw crew overboard if not prepared. In the photograph, part of the fall has been coiled and threaded in between the lines connecting the mainsheet blocks. The end from the jammer is taken over the helm (yellow arrow in photo) and is controlled by the helmsman.



The end from the jammer is taken over the helm, indicated by the arrow, and is controlled by the helmsman



On some yachts, as the mainsail comes down, even though the topping lift is triced up before lowering, the mainsheet slackens a bit; and again, the boom can swing. So, skippers should have a hand ready by the mainsheet in case slack needs taking up. With a lot of modern boats where the mainsheet runs through a jammer by the companionway, and with only two on board, it should be standard procedure for the fall of the sheet to be passed to the helm so that slack can be taken up as the mainsail is lowered.

The arrow indicates where the fall has been trapped

Carry a spare impeller

Stripped impeller vanes can result in an overheating engine and lead to an unnecessary, eye-watering bill. The photo shows an impeller before and after a plastic bag had been sucked into the raw water inlet; the first thing we knew of a problem was the engine alarm going off.

Luckily we were in shallow water, so we dropped the anchor. Then, after removing the housing cover, we found the now vaneless impeller. If this happens to you, it is important that you check thoroughly to verify whether or not the broken-off vanes have disappeared into the cooling system. An inspection will do for starters; and having cleared all visible debris, counting the vanes recovered and replacing the housing cover, you can think about topping up with coolant after a good wait for the engine to cool down.

We did this, replaced the impeller, then ran the engine for 10 minutes to check that the system was clear. Luckily the boat's owner had a spare impeller on board.



The vanes on the left-hand impeller broke off after a plastic bag was sucked into the raw water inlet

On the subject of engine spares, a prudent skipper will also carry a complete engine oil change, oil and fuel filters and an alternator belt. On a Contessa 32 some years ago, our alternator belt frayed through, and we had no spare. However, a bright young lady volunteered her spare tights, and on a windless passage back from Alderney the engine worked perfectly all the way to Gosport.

It's also good practice to turn off your engine's raw water inlet seacock when leaving the boat. I always used to, and would hang the ignition key from the seacock handle. This formed a useful reminder to turn the seacock back on, as I could not start the engine without the keys.



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Port Kioni, one of the most attractive ports in the Ionian



Interesting Ithaca!

Phil Johnson loses himself in one of the windiest places in the Ionian

Steeped in mythology, this magical island linked with Odysseus and ancient heroes has a wide range of ports and bays in which to lose yourself for a week or more. It's one of the windiest places in the Ionian too, and some of the ports can make for challenging afternoon sailing and late mooring: but it's worth the effort.

Sitting next to its big sister Cephalonia, Ithaca stands tall and proud: its steep-sided hills run through its spine and separate its 46 square miles. There are four main ports plus numerous bays, and the urban legend that is 'Rat Island'.

Coming from the north, along the east coast, the first port of call is Frikes. It sits at the end of a large bay with a gap in the hills behind it, and that means wind funnels

through in the afternoon, which can make mooring difficult. The flotillas come here during the week and often tie together or raft up along and inside the mole at the entrance.

There is often space to go alongside on the northern side of the quay, but beware – ferry wash can be an issue, so leave space between you and the quay. Better still, as well as putting your fenders out, you should also deploy a boarding plank strapped alongside the fenders to stop them (and you) from bashing the rough concrete quay. There's a broken, floating pontoon here too, but I've never seen anyone use it; and flotilla and charter skippers tell me it is best avoided. The little port itself is delightful, with some lovely tavernas, supermarkets/shops and showers. There is also a memorial to the Greek resistance fighters who, during the Second World War, attacked a Nazi warship moored here.

Just outside Frikes on the north side is a small bay which is a favourite of ours: you'll see a ruined boat on the shore painted in 'rasta' colours. The seabed shelves quickly and it's only good in settled conditions, but we've had many a nice night there.

Just a mile or so around the headland to the south are the three windmills at the entrance of Port

Kioni, one of the most attractive ports in the Ionian with its pretty houses and shops on the sunny waterfront. There's water on the quayside when the 'water man' comes along in the morning and turns it on.

The problem with Kioni is you probably won't get in after lunchtime in high season. There's a little room, and when flotillas come in they tend to bag a fair bit of it. Again, weekends are best as seven-day flotillas are on 'turnaround' back at base. Go in bows-first to the quay if you have a deep draught: it gets shallower the closer in to the town you go. You can anchor and take a line ashore opposite the quay, and there are metal rings on the walkway to tie

to: however, it's important to leave a good space between you and the flat quayside. Ferry wash comes in here all night at regular intervals, and I've seen boats lifted up and their sterns smashed down on the quay. You can also moor out and swing, but it does get deep very quickly. It is a charming spot and a lovely place to spend a night or two.

Leaving Kioni and heading south, you will enter the Molos Gulf. Here the wind funnels down in the afternoon, and it can be quite strong. The island's capital Vathi offers fuel, water, supermarkets and shelter. There is a taverna on the east side as you come in which is a flotilla favourite, and it has a quay. There's plenty of

ABOUT THE AUTHOR



Phil Johnson is a former BBC and ITV producer and reporter. He is the author of the children's

book *The Little Blue Boat and the Marsh Man's Gold!* and tries to spend three months of the year cruising the Ionian with his wife Fi in their HR 34, *Panacea*.



Ithaca Bay, near Frikes



Polis has a very shallow little harbour with a small mole for local boats
INSET An unintentionally thought-provoking sign in Polis

room to swing inside the large bay around which Vathi is built. You can also go stern- or bows-to on the town quay to the west side. There are port police here too.

Rat Island

South of Vathi, along the east coast, there are a couple of little hideaways and then Pera Pigadhi, known as 'Rat Island'. Ten years ago we were told of giant cannibal rats which had survived various attempts to remove them from this pretty lump of scrub-filled rock close to Ithaca. We heard the locals had rounded up stray dogs and cats and put them on the island one winter, and when they returned in the spring the rats were still there, but there were just the bones of the dogs and cats!

'Rat Island' has a concrete quay which we moored to many years ago, and there was plenty of rat poo in evidence and a rustling in the scrub. We didn't stay! However, I'm told that the rats have now gone and it's safe to moor there. We saw a couple of boats moored there overnight in September.

Just to the south of the island is a wide bay which is worth a stop provided the winds are ok. Lay plenty of chain, and be prepared for the occasional bounce from ferry wash. There is said to be a mythical spring in the hill, and the atmosphere here is quite special. If you go around the southern tip of the island there's a bay big enough for a few boats with clear signs of an ancient settlement. Now it's just the goats who seem to live there. It's sheltered except from the south and it's a reasonable spot, but again busy in season.

Anchor and swing

On the west coast of Ithaca, opposite Cephalonia, is Polis. Here you can anchor and swing; you

can also take shore lines back to rocks on the north and south sides of the bay. You often get a north-westerly blow at the end of the afternoon here: as always, be sure to check the weather first. If it does get up from the north-west you can always pop across the narrow channel to Cephalonia where there are a number of small bays offering protection, but the wind usually goes at sunset.

Polis has a little harbour with a small mole although this is for local boats, and it's very shallow. There's a lovely sign here which reads 'Birth Place for Fishing Boats'. I always thought they were made, not born! There is a tap by a cafe on the quayside but, as the locals will tell you, it is 'only for horses' so it's not recommended unless you're running in the 2:45 at Newmarket.

An uphill walk with great views across the bay will take you, after about a mile, to the village. There's a nice square which features a model of an archaeological ruin being excavated nearby, along with shops, a pharmacy, ice creams and tavernas (including a lovely one set in a garden, to the right of the main street). The village also has a small museum.

British archaeologists made a famous find in the 1900s in a cave in the bay at Polis: the cave is still there, but the roof has fallen in. Centuries ago the locals used it as a hideaway for treasures including, it is said, evidence of Odysseus being there. That treasure is now on show at the museum.

Polis is very different to the main ports on the east coast of Ithaca, but it has charm and a real sense of history. They say there's a sunken city at the entrance of the bay. I've yet to find someone who's seen it, but just knowing it could be there adds another layer of mysterious allure to this jewel of an Ionian island.

Free anchorage!

The Cove, Isles of Scilly



Ben Meakins

Holding on sand is good, but avoid patches of weed

In the right conditions, the anchorage known as The Cove, which lies between St Agnes and Gugh, is one of Scilly's finest anchorages – although you'll need to be prepared to clear out if it comes on to blow from the south.

Shelter is excellent from west, north and east – although improved in northerlies once the causeway between the two islands is uncovered. Holding is good, on sand; but make sure you avoid any patches of weed, the odd mooring and a telephone

cable, which is marked on the chart. Approach is easy – deep water and no hazards if you stick to the middle of the bay.

A good pub, the Turk's Head, is ashore, a short walk away on St Agnes, and offers food, drink and free WiFi. The odd golf cart aside, the island is a tranquil place to spend a while.



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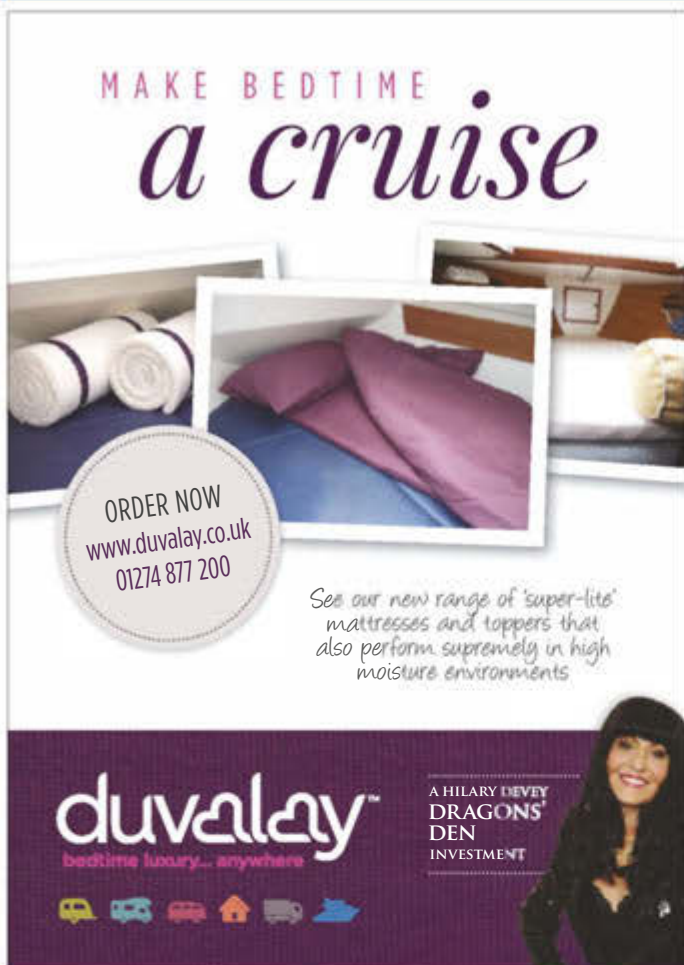
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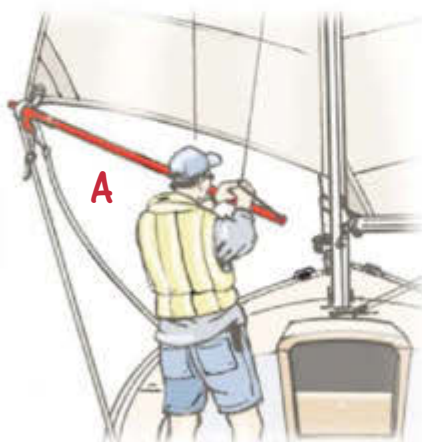
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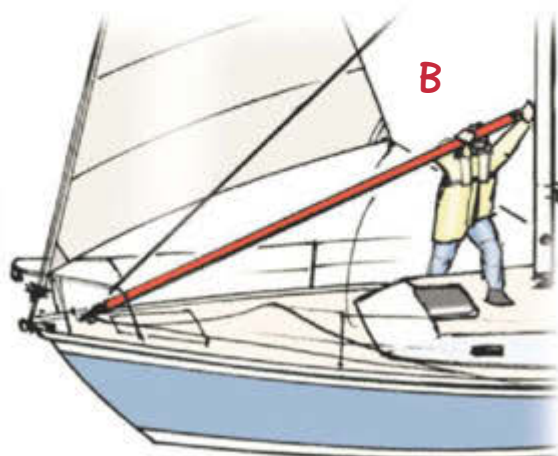
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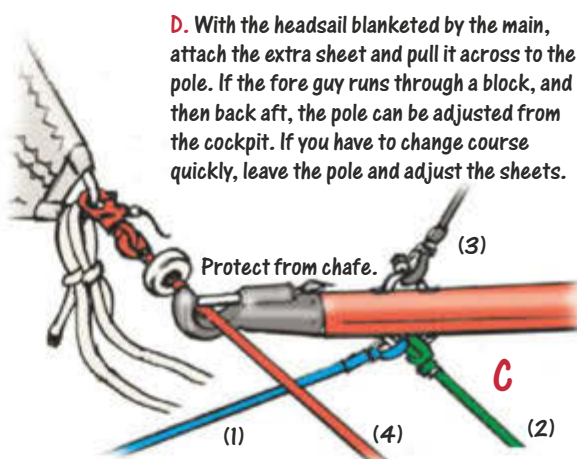


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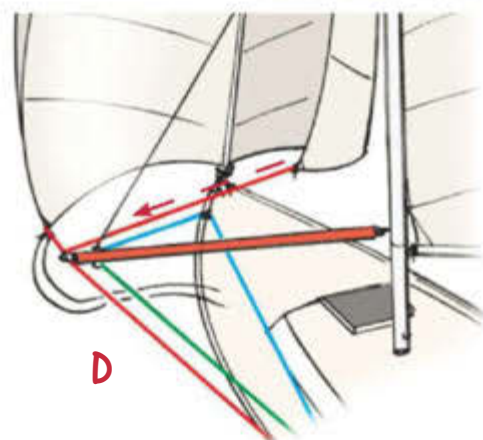
B. On bigger boats you need to use the spinnaker pole and be more careful to avoid damaging the boat, or crew. Depending on how it's rigged, one way is to attach all the lines to one end, while it's still fixed to the deck. Then raise the other end up the mast.



C. The idea is to get the pole in position and held there with a fore guy (1) after guy (2) and topping lift (3). Then pull the sail to it. The ultra-safe way of doing so is to use an extra sheet (4), not the lazy sheet. This avoids possible chafe and snags with the guardrail.

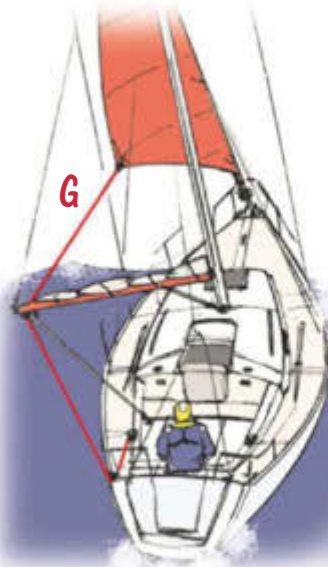
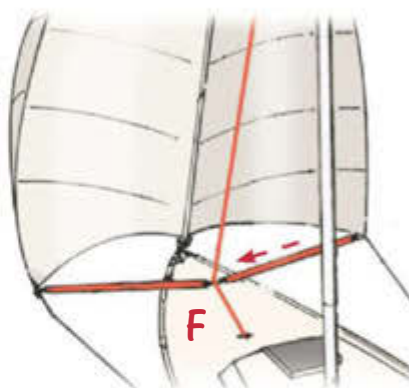


D. With the headsail blanketed by the main, attach the extra sheet and pull it across to the pole. If the fore guy runs through a block, and then back aft, the pole can be adjusted from the cockpit. If you have to change course quickly, leave the pole and adjust the sheets.



E. Twin poled-out headsails can be made to steer the boat downwind, in steady conditions.

F. To reduce the rolling effect of poled-out sails, some people use a twizzle rig. This fixes the poles to a stay, which gives slightly.



G. If you are on a boat without poles, you can still run before a strong wind with a small headsail by poling it out with the boom. Fix a block on the end of the boom and run the sheet through it. A nylon preventer, running forward from the boom end and then aft, is good as it gives a bit if you dip the boom into the water.

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PUZZLE SOLUTION: 1: B, 2: A, 3: A, 4: B



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